

**MAG 2007 FIVE PERCENT PLAN FOR PM-10 FOR THE
MARICOPA COUNTY NONATTAINMENT AREA**

APPENDICES

VOLUME FIVE

DECEMBER 2007



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APPENDICES

APPENDIX A

- Exhibit 1: Letter from Governor Wesley Bolin Designating the Maricopa Association of Governments as the Lead Air Quality Planning Organization for Maricopa County.
- Exhibit 2: 1992 Memorandum of Agreement for Air Quality Planning.
- Exhibit 3: Letter from Felicia Marcus, EPA Region IX Administrator to Russell Rhoades, Director of the Arizona Department of Environmental Quality Dated September 18, 1996.
- Exhibit 4: Modified Second Consent Decree. Ober vs. Environmental Protection Agency. March 25, 1997.
- Exhibit 5: Final Rulemaking to Approve in Part and Disapprove in Part the ADEQ Plan for Attainment for the 24-hour PM-10 Standard for the Maricopa County PM-10 Nonattainment Area. Environmental Protection Agency. August 4, 1997.
- Exhibit 6: Approval and Promulgation of Implementation Plans; Arizona - Maricopa County PM-10 Nonattainment Area; Serious Area Plan for Attainment of the PM-10 Standards; Final Rule. July 25, 2002.

APPENDIX B

- Exhibit 1: 2005 Periodic Emissions Inventory for PM-10 for the Maricopa County, Arizona, Nonattainment Area. May 2007.
- Exhibit 2: MAG Analysis of Particulate Control Measure Cost Effectiveness. Sierra Research, Inc. April 18, 2007.
- Exhibit 3: Air Quality Technical Advisory Committee Recommendations on the Suggested List of Measures to Reduce PM-10 Particulate Matter. March 28, 2007.
- Exhibit 4: State Assurances that the State has the Authority to Implement the Measures in the Plan: A.R.S. Section 49-406 I. and J.

APPENDICES (Continued)

APPENDIX C

Exhibit 1: Technical Document in Support of the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. Maricopa Association of Governments. December 2007.

APPENDIX D

Exhibit 1: Public Hearing Process Documentation

Exhibit 2: Certification of Adoption

APPENDIX D

APPENDIX D

EXHIBIT 1:

PUBLIC HEARING PROCESS DOCUMENTATION

**CERTIFICATION OF HOLDING OF PUBLIC HEARING ON THE
MAG FIVE PERCENT PLAN FOR PM-10
FOR THE MARICOPA COUNTY NONATTAINMENT AREA**

I affirm that a public hearing was held jointly by the Arizona Department of Environmental Quality and the Maricopa Association of Governments (MAG) starting at 5:30 p.m. Wednesday, December 12, 2007 at the MAG Offices, Cholla Room, 302 North 1st Avenue, Phoenix, Arizona and that the hearing was held in accordance with the Arizona open meeting laws and 40 CFR 51.102 (d) to receive public comment on the MAG Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area.

December 13, 2007

Date

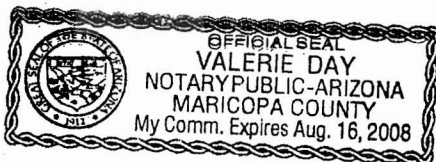
Lindy Bauer

Lindy Bauer, MAG
Environmental Director

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

Personally appeared before me the above-named Lindy Bauer known to me to be the same person who executed the foregoing instrument and to be the Environmental Director for the Maricopa Association of Governments and acknowledged to me that she executed the same as her free act.

SUBSCRIBED AND SWORN TO before me on this 13th day of December 2007.



Valerie Day
Notary Public

My Commission Expires:

August 16, 2008

THE ARIZONA REPUBLIC

**PUBLIC HEARING ON THE
MAG 2007 FIVE PERCENT
PLAN FOR PM-10 FOR THE
MARICOPA COUNTY
NONATTAINMENT AREA**
December 12, 2007 at 5:30
p.m.
MAG Offices, Cholla Room
302 North 1st Avenue, Second
Floor
Phoenix, Arizona 85003
The Arizona Department of
Environmental Quality
(ADEQ) and Maricopa Asso-
ciation of Governments
(MAG) will jointly conduct a
public hearing on the draft
MAG 2007 Five Percent Plan
for PM-10 for the Maricopa
County Nonattainment Area
on December 12, 2007 at 5:30
p.m. The purpose of this
hearing is to receive public
comments.
According to the federal
Clean Air Act, the Five Per-
cent Plan for PM-10 is re-
quired to be submitted to the
Environmental Protection
Agency (EPA). The plan con-
tains a variety of air pollu-
tion control measures such
as Pave or Stabilize Dirt
Roads and Alleys; Dust
Managers/Coordinators at
Earthmoving Sites; Sweep
with PM-10 Certified Street
Sweepers; Pave or Stabilize
Dirt Shoulders; Pave or Sta-
bilize Unpaved Parking Lots
and Restrict Vehicle Use on
Vacant Lots. The plan dem-
onstrates that the commit-
ted measures will reduce
PM-10 emissions by at least
five percent per year and
demonstrates attainment of
the PM-10 standard as expe-
ditiously as practicable
which is 2010.
The draft document is availa-
ble for public review at the
MAG Offices, third floor,
from 8:00 a.m. to 5:00 p.m.
Monday through Friday. Pub-
lic comments are welcome
at the hearing, or may be
submitted in writing by 5:30
p.m. on December 12, 2007 to
Lindy Bauer at the address
below. After considering the
public comments, the MAG
Regional Council may take
action on the plan on Decem-
ber 19, 2007. The ADEQ may
then adopt the plan for sub-
mittal to the EPA.
Contact Person:
Lindy Bauer, MAG/(602) 254-
6300
302 N. 1st Avenue, Suite 300
Phoenix, AZ 85003
Fax: (602) 254-6490
Published: November 13, 2007

STATE OF ARIZONA
COUNTY OF MARICOPA } SS.

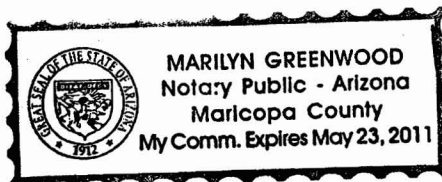
Mark Gilmore, being first duly sworn, upon oath deposes and says: That he is a legal advertising representative of the Arizona Business Gazette, a newspaper of general circulation in the county of Maricopa, State of Arizona, published at Phoenix, Arizona, by Phoenix Newspapers Inc., which also publishes The Arizona Republic, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates as indicated.

The Arizona Republic

November 13, 2007

Mark Gilmore

Sworn to before me this
13TH day of
November A.D. 2007



Marilyn Greenwood
Notary Public

November 13, 2007

TO: Interested Parties for Air Quality

FROM: Lindy Bauer, Environmental Director

SUBJECT: PUBLIC HEARING ON THE MAG FIVE PERCENT PLAN FOR PM-10 FOR
THE MARICOPA COUNTY NONATTAINMENT AREA

Public Hearing
December 12, 2007 at 5:30 p.m.
MAG Offices, Cholla Room
302 North 1st Avenue, Second Floor
Phoenix, Arizona 85003

The Arizona Department of Environmental Quality (ADEQ) and Maricopa Association of Governments (MAG) will jointly conduct a public hearing on the Draft MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area on December 12, 2007 at 5:30 p.m. The purpose of this hearing is to receive public comments.

According to the federal Clean Air Act, the Five Percent Plan for PM-10 is required to be submitted to the Environmental Protection Agency (EPA). The plan contains a variety of air pollution control measures such as Pave or Stabilize Dirt Roads and Alleys; Dust Managers/Coordinators at Earthmoving Sites; Sweep with PM-10 Certified Street Sweepers; Pave or Stabilize Dirt Shoulders; Pave or Stabilize Unpaved Parking Lots and Restrict Vehicle Use on Vacant Lots. The plan demonstrates that the committed measures will reduce PM-10 emissions by at least five percent per year and demonstrates attainment of the PM-10 standard as expeditiously as practicable which is 2010.

For your information and convenience, a copy of the public hearing notice is enclosed. The draft document is available for public review at the MAG Offices, third floor, from 8:00 a.m. to 5:00 p.m. Monday through Friday. In addition, the draft document is available for agency and public review on the MAG website at www.mag.maricopa.gov.

Attachment

**PUBLIC HEARING ON THE MAG 2007 FIVE PERCENT PLAN FOR PM-10 FOR THE
MARICOPA COUNTY NONATTAINMENT AREA**

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MAG Offices, Cholla Room
302 North 1st Avenue, Second Floor
Phoenix, Arizona 85003

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The draft document is available for public review at the MAG Offices, third floor, from 8:00 a.m. to 5:00 p.m. Monday through Friday. Public comments are welcome at the hearing, or may be submitted in writing by 5:30 p.m. on December 12, 2007 to Lindy Bauer at the address below. After considering the public comments, the MAG Regional Council may take action on the plan on December 19, 2007. The ADEQ may then adopt the plan for submittal to the EPA.

Contact Person: Lindy Bauer, MAG (602) 254-6300
302 N. 1st Avenue, Suite 300
Phoenix, AZ 85003
Fax: (602) 254-6490



302 North 1st Avenue, Suite 300 ▲ Phoenix, Arizona 85003
Phone (602) 254-6300 ▲ FAX (602) 254-6490
E-mail: mag@mag.maricopa.gov ▲ Web site: www.mag.maricopa.gov

November 13, 2007

Ms. Cynthia Zwick
Executive Director
Arizona Community Action Association
2700 North 3rd Street, Suite 3040
Phoenix, Arizona 85004-1122

Dear Ms. Zwick:

You are cordially invited to a public hearing on the Draft MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. The hearing will be held jointly by the Arizona Department of Environmental Quality and Maricopa Association of Governments on Wednesday, December 12, 2007 at 5:30 p.m. in the Cholla Room at the MAG Offices, 302 North 1st Avenue, Second Floor, Phoenix, Arizona, 85003. The purpose of this hearing is to receive public comments. Written and verbal comments are welcomed at the public hearing. After considering public comments, the MAG Regional Council may take action on the plan on December 19, 2007.

According to the federal Clean Air Act, the Five Percent Plan for PM-10 is required to be submitted to the Environmental Protection Agency (EPA). The plan contains a variety of air pollution control measures such as Pave or Stabilize Dirt Roads and Alleys; Dust Managers/Coordinators at Earthmoving Sites; Sweep with PM-10 Certified Street Sweepers; Pave or Stabilize Dirt Shoulders; Pave or Stabilize Unpaved Parking Lots and Restrict Vehicle Use on Vacant Lots. The plan demonstrates that the committed measures will reduce PM-10 emissions by at least five percent per year and demonstrates attainment of the PM-10 standard as expeditiously as practicable which is 2010.

The draft document is available for review at the MAG Offices, third floor, from 8:00 a.m. to 5:00 p.m. Monday through Friday. In addition, the draft document is available for agency and public review on the MAG website at www.mag.maricopa.gov. We hope to see you or your representative at the hearing and to include your input in future planning efforts. For your convenience, a copy of the public hearing notice is attached. If you have any questions or would like to set up a time for us to meet with your organization, please call me at (602) 254-6300.

Sincerely,

Lindy Bauer
Environmental Director

Attachment

**PUBLIC HEARING ON THE MAG 2007 FIVE PERCENT PLAN FOR PM-10 FOR THE
MARICOPA COUNTY NONATTAINMENT AREA**

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MAG Offices, Cholla Room
302 North 1st Avenue, Second Floor
Phoenix, Arizona 85003

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Contact Person: Lindy Bauer, MAG (602) 254-6300
302 N. 1st Avenue, Suite 300
Phoenix, AZ 85003
Fax: (602) 254-6490

November 13, 2007

TO: Leslie Rogers, Federal Transit Administration
Robert Hollis, Federal Highway Administration
Victor Mendez, Arizona Department of Transportation
Stephen Owens, Arizona Department of Environmental Quality
David Boggs, Regional Public Transportation Authority
Debbie Cotton, City of Phoenix Public Transit Department
Robert Kard, Maricopa County Air Quality Department
Maxine Leather, Central Arizona Association of Governments
Donald Gabrielson, Pinal County Air Quality Control District
Wienke Tax, U. S. Environmental Protection Agency, Region IX

FROM: Lindy Bauer, Environmental Director

SUBJECT: TRANSMITTAL OF THE DRAFT MAG 2007 FIVE PERCENT PLAN FOR PM-10
FOR THE MARICOPA COUNTY NONATTAINMENT AREA

The Maricopa Association of Governments has prepared a Draft MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. The draft document is available for review at the MAG Offices, third floor, from 8:00 a.m. to 5:00 p.m., Monday through Friday. In addition, the draft document is available for agency and public review on the MAG website. Any comments are requested by 5:30 p.m. on December 12, 2007.

According to the federal Clean Air Act, the Five Percent Plan for PM-10 is required to be submitted to the Environmental Protection Agency (EPA). The plan contains a variety of air pollution control measures such as Pave or Stabilize Dirt Roads and Alleys; Dust Managers/Coordinators at Earthmoving Sites; Sweep with PM-10 Certified Street Sweepers; Pave or Stabilize Dirt Shoulders; Pave or Stabilize Unpaved Parking Lots and Restrict Vehicle Use on Vacant Lots. The plan demonstrates that the committed measures will reduce PM-10 emissions by at least five percent per year and demonstrates attainment of the PM-10 standard as expeditiously as practicable which is 2010.

On December 12, 2007, a public hearing will be conducted jointly by the Arizona Department of Environmental Quality (ADEQ) and MAG at the MAG Offices, Cholla Room, Second Floor, Phoenix, Arizona at 5:30 p.m. After considering public comments, the MAG Regional Council may take action on the plan on December 19, 2007. The ADEQ may then adopt the plan for submittal to the EPA. If you have any questions, please do not hesitate to contact me at (602) 254-6300.

cc: Nancy Wrona, Arizona Department of Environmental Quality

**PUBLIC HEARING ON THE MAG 2007 FIVE PERCENT PLAN FOR PM-10 FOR THE
MARICOPA COUNTY NONATTAINMENT AREA**

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Phoenix, Arizona 85003

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Contact Person: Lindy Bauer, MAG (602) 254-6300
302 N. 1st Avenue, Suite 300
Phoenix, AZ 85003
Fax: (602) 254-6490

MARICOPA ASSOCIATION OF GOVERNMENTS
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
PUBLIC HEARING ON THE MAG FIVE PERCENT PLAN
FOR PM-10 FOR THE MARICOPA COUNTY NONATTAINMENT AREA

Phoenix, Arizona
December 12, 2007
5:30 p.m.

ORIGINAL

Prepared For:

MARICOPA ASSOCIATION OF GOVERNMENTS

(Original)

Prepared By:

LORENA K. WAGNER
Court Reporter

I N D E X

PUBLIC SPEAKERS:

PAGE

Ms. Barker

20

Mr. Tobin

21

MARICOPA ASSOCIATION OF GOVERNMENTS
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

PUBLIC HEARING ON THE MAG FIVE PERCENT PLAN
FOR PM-10 FOR THE MARICOPA COUNTY NONATTAINMENT AREA

commenced at 5:30 p.m. on December, 12, 2007, at the
offices of Maricopa Association of Governments, 302 North
First Avenue, Suite 300, Phoenix, Arizona, before
LORENA K. WAGNER, a Court Reporter in and for the County
of Maricopa, State of Arizona.

* * * * *

A P P E A R A N C E S

Maricopa Association of Governments:

Lindy Bauer

Arizona Department of Environmental Quality:

Diane Arnst

Phoenix, Arizona
December 12, 2007
5:30 p.m.

* * * * *

PROCEEDINGS

MS. BAUER: I'd like to welcome all of you
to our public hearing that we are having this evening.

This is Maricopa Association of
Governments. We serve as the designated regional air
quality planning agency for the Maricopa County area.

The public hearing is being held this
evening jointly with the Arizona Department of
Environmental Quality and MAG in order to receive public
comment on the Draft MAG Five Percent Plan for PM-10 for
the Maricopa County nonattainment area.

Those of you that drove to the meeting and
who parked in the garage can have your tickets validated
by the MAG staff. And we have MAG staff over here, and
they would be happy to accommodate you.

The public hearing process will begin with
some introductory remarks by DEQ -- if DEQ would like to
make some and we'll turn to DEQ in just a moment here --
and an overview presentation by the MAG staff.

1 Following the presentation, hearing
2 participants are invited to make comments for the public
3 record. A court reporter is present to provide an
4 official record of the hearing. Written comments are
5 also welcomed at the hearing.

6 For those of you wishing to speak, please
7 fill out a form on the table and place it in the box; or
8 you may also hand it to MAG staff as well.

9 If you need to speak early in order to make
10 a bus schedule, please tell MAG staff; and we will
11 accommodate your request.

12 As you come up to the podium, please state
13 some information for the formal record: Your name and
14 who you represent.

15 I'd like to note that we have a timer to
16 assist the public with their presentations. We have a
17 three-minute time limit. When two minutes have elapsed,
18 the yellow light will come on notifying the speaker that
19 they have one minute to sum up. At the end of the
20 three-minute time period, the red light will come on.

21 And if you have any questions when we get
22 to the public hearing part, feel free to ask them as well
23 as to make your comments.

24 So now according to our informal agenda
25 that we have for this public hearing, I'd like to ask DEQ

1 if they have any introductory remarks.

2 MS. ARNST: I have no comments at this
3 time.

4 MS. BAUER: Thank you very much.

5 And now we will begin with a presentation
6 on the MAG Five Percent Plan for PM-10.

7 Cathy Arthur of MAG will give the
8 presentation on the plan.

9 MS. ARTHUR: Thank you, Lindy.

10 I'm going to go over the highlights of the
11 plan. As those of you who have read it know, it's a
12 lengthy document. And I'm just going to hit on the
13 things that are probably the most important, perhaps the
14 most challenging for us, in terms of preparing this plan.

15 The requirement to do a Five Percent Plan
16 is dictated in the Clean Air Act, and it's for those
17 serious PM-10 nonattainment areas in the country that
18 fail to meet the attainment date.

19 And in our case, that was December 31st,
20 2006, which was the point at which our previous area plan
21 that we would attain, and we did not attain. We had
22 violations at the monitors. And so the Clean Air Act
23 specifies that when you don't attain these standards, you
24 prepare a Five Percent Plan. And it's due one year from
25 the date that you violate it, so that's why it's due this

1 month.

2 There's three major requirements in the
3 plan. These are not all of them, but these are the three
4 major ones. And there are three bullets at the bottom
5 here.

6 One is that you need to do modeling to
7 demonstrate attainment at all monitors in the
8 nonattainment area.

9 We need to show five percent per year
10 reduction in emissions until the attainment date.

11 And you need to have additional contingency
12 measures above and beyond the committed measures in order
13 to meet one year of reasonable further progress. And I
14 will explain that in a minute.

15 This is the base inventory that's being
16 used in this plan for 2007 with the committed control
17 measures. And you'll see that it amounts to about 96,000
18 tons per year. This gives you the apportionment by
19 source categories.

20 And you can see some of the major
21 categories are paved roads, unpaved roads, and various
22 construction types.

23 The control measures that have been
24 committed in this Five Percent Plan are -- There are 53
25 of them, and they're described in Chapter 6 of the plan.

1 We have quantified 25 of these for emission reduction
2 credit.

3 We took the ones that were easiest to
4 quantify, and that doesn't always mean it's easy to
5 quantify them, but these were the ones that were most
6 amenable to our quantifying emission reduction potential.

7 And you can see that the measures that we
8 quantified cover sources of construction dust in the case
9 of Measure No. 2.

10 Measures 3 and 16 cover construction dust
11 and nonmetallic mineral processing dust.

12 Measure 8 covers construction, nonmetallic
13 mineral processing, as well as vacant lots and unpaved
14 parking lots.

15 Measures 9, 10, 44 are related to the
16 Rule 310 and 316, which covers construction and
17 nonmetallic mineral processing activities.

18 Measures 21 and 22 are leaf-blower
19 measures.

20 Measure 23 bans the use of off-road
21 vehicles on high pollution advisory days called by DEQ.

22 Measure 25 is an initiative to pave or
23 stabilize unpaved parking lots.

24 Measure 28 addresses unpaved shoulders.

25 Measure 30 is also controlling vacant lot

1 emissions. And you'll see that we have four measures
2 that control vacant lot emissions.

3 Measures 30, 31, 32, and 33 are all
4 measures to try to reduce vacant lot emissions.

5 Measures 34 and 35 address open burning and
6 fire places on high pollution advisory days.

7 And Measures 36, 37, and 38 are various
8 measures to strengthen the requirements of Rule 310,
9 which affects construction dust.

10 Measure 45 prohibits another leaf-blower
11 measure prohibiting the use of leaf blowers on
12 unstabilized surfaces.

13 Measure 47 bans outdoor fires during the
14 summer.

15 Measure 48 includes no burning restrictions
16 on PM-10 days.

17 And Measure 53, although it is a small
18 benefit, is quantifiable when you overlay paved roads
19 with rubberized asphalt. You actually have a PM-10
20 reduction.

21 So we've quantified all these 25 measures,
22 and together they reduce emissions when you compare them
23 with the 2007 slide by about 15,000 tons per year.

24 And you can see the distribution of
25 emissions is similar; although, there is quite a bit of

1 reduction in the construction contribution because we
2 have so many measures that address that source.

3 This is a bar chart that shows you the
4 relative contributions of the various measures I just
5 went through. And you can see that the reductions are
6 attributable to the construction sector and, after that,
7 unpaved shoulders and vacant lots. And most of the
8 others are fairly small in terms of their contribution.

9 So these 25 committed measures that I've
10 just gone through very briefly are needed for two
11 purposes in the plan. One is to -- We take credit for
12 these 25 measures in order to show that we can attain at
13 all monitors through modeling.

14 And then the second requirement is a
15 requirement that's unique to a Five Percent Plan. And
16 it's defined in the Clean Air Act. And that is when
17 you're not able to show attainment by 2006 the way we
18 were, then you have to show a five percent per year
19 reduction in addition until you attain.

20 So in our case, that means in 2008, 2009,
21 and 2010 we have to show an accumulative five percent
22 reduction; so it's additive. And you can see that by
23 2010 we have to show almost a 15,000 ton reduction for
24 our measures in order to meet this requirement.

25 So first I'm going to talk about the

1 modeling that was performed.

2 There are actually several different
3 modeling analyses that were conducted. The largest one
4 was the Salt River area because our highest monitoring
5 concentrations are at monitors in that area. And there
6 were two episodes that were chosen to model. One was a
7 stagnant condition in December of 2005, and the other was
8 a windy day a few months later in 2006.

9 The modeling was done with a calcium and
10 dispersion model called Air Mod. And it was performed by
11 a contractor for MAG. And a lot of the work that was
12 done in that modeling, the parameters, and the input data
13 were collected during the MAG PM-10 Source Attribution
14 and Deposition Study that was done in the Salt River area
15 in November and December of 2006. So it was a year
16 later.

17 It wasn't during the episode that was being
18 modeled, but it was exactly a year later. And the period
19 during which the study was conducted did have violations
20 of the PM-10 standard in the Salt River area. So we were
21 able to get some feel for what the conditions were
22 similar to what had happened in 2005.

23 The results of the dispersion modeling were
24 that all of the monitors -- The three monitors that
25 stayed in the standard on December 15th, 2005 or

1 December 12, 2005 are able to attain the standard in 2010
2 with those control measures that I showed you. So the 25
3 control measures allow the highest value, which would be
4 141; and the standard is 150.

5 And that's for the stagnant conditions
6 which are our biggest challenge. On the windy day in
7 February, the measures were also able to allow us to show
8 attainment with the modeling at West 43rd and Durango
9 which violated the standard on February 15th, 2006. Once
10 again, the high values are 141. That's just coincidental
11 by the way.

12 We also performed modeling in the Higley
13 area. Now, the sources of emissions in that area are
14 considerably different than in the Salt River area. The
15 sources are predominantly at this -- on this day,
16 January 24, 2006, were predominantly construction. There
17 was a lot of new housing. There was a high school being
18 built. There was the San Tan Freeway construction. So
19 this area had a tremendous amount of construction going
20 on. There was also a high-wind day. There were two
21 hours in which the wind exceeded 15 miles per hour.

22 So we used a much simpler approach here.
23 We didn't use the dispersion model. We used a rollback
24 model, which is really a proportional model where
25 emissions are proportional in concentrations.

1. We developed a microscale inventory for a
2 four by four kilometer area surrounding the Higley
3 monitor.. And we were able to show with the control
4 measures that the emissions and therefore the
5 concentrations would come down dramatically by 2010. You
6 can see we're down at 64 and 116.

7 There are two different scenarios modelled
8 here. One was assuming that the area around Higley is
9 built out which it is now. I mean, we didn't have to
10 wait until 2010. There is very little construction going
11 on now, and so we just assumed the new land uses and
12 projected what they would be in 2010. And then we
13 determined what the concentrations would be under that
14 scenario.

15 But we also looked at what would happen if
16 you have the same types of sources -- construction
17 sources -- in that area in 2010. We would still be able
18 to show an attainment standard because even though Higley
19 may not exceed the standard, again, there's probably some
20 place in the PM-10 nonattainment area where there would
21 be a similar mix of construction sources in 2010. So we
22 want to make sure that we can show attainment with
23 control measures even if construction were going on.

24 And in fact, we're quite a bit below the
25 standard at 116. So the Higley monitoring -- The Higley

1 modeling shows attainment in 2010 comfortably.

2 Then another exercise was done with
3 rollback modeling for the Greenwood and West Phoenix
4 monitors. These are outside the Salt River area. The
5 Greenwood modeling is actually within a mile of the
6 Salt River area.

7 The only day that these two monitors
8 exceeded the standard was on December 12th, which was the
9 same day that it was being modeled with the dispersion
10 model.

11 So we looked at the data that was provided
12 from the modeling done in the Salt River area; and we
13 were able to extrapolate that data for Greenwood and
14 West Phoenix and do a much simpler approach, once again,
15 of the proportional rollback where concentrations are
16 proportional.

17 And in this case, we're showing Greenwood
18 at 149, just 150. And we're showing West Phoenix at 154.

19 And I'm sure your immediate reaction would
20 be, Well, that's exceeding the standard.

21 It turns out that there is a rounding
22 option and that -- For example, when monitored values are
23 pulled off, the value is 155 or greater than it exceeds
24 the standards. So actually anything under 155 is
25 considered to be in attainment.

1 Okay. And so I just briefly went through
2 the modeling. A lot of the plan and the technical
3 support documents spent considerable time telling you all
4 about the assumptions that were made in the modeling.

5 The second requirement -- major
6 requirement -- of this plan is to show annual five
7 percent reductions in emissions in 2008, '09, and '10.

8 And I showed you what our target emission
9 reductions are 4,822 in 2008 and 9,644 in 2009 and 14,466
10 in 2010. And you can see the actual emission reductions
11 from those 25 measures and considerably exceeds those
12 targets in the appropriate year.

13 So the bottom line here is that the
14 emission reductions necessary for the modeling attainment
15 demonstration were actually more stringent than the five
16 percent requirement. And going into this, we didn't know
17 whether the five percent per year would be the driving
18 factor. And actually it turned out that the dispersion
19 modeling required higher emission reductions than the
20 five percent. And by meeting the modeling requirement,
21 we comfortably meet the five percent per year
22 requirement.

23 And then the third major requirement is the
24 contingency measures.

25 Now, these have to be above and beyond the

1 committed control measures; so they're not the 25 that I
2 showed you. This is a whole other set of measures that
3 you have to have, and the quantification of those
4 measures has to result in at least one year of reasonable
5 further progress.

6 And what does that mean?

7 Well, reasonable further progress is
8 defined as the line, which connects the base of your
9 emissions. The first pie chart I showed you for 2007,
10 which showed 96,445 and then the pie chart showed you
11 with the 2010 committed measures. And you connect those
12 points, and then you come up with an annual reduction.
13 And that's called reasonable further progress. In this
14 case, it's a little over 5,000 tons.

15 So the Clean Air Act requires that you come
16 up with measures above and beyond the committed measures
17 that I've already shown you that meet this 5,000 ton
18 requirement as well.

19 So these are nine measures that have been
20 quantified that are in the plan. And as I'll show you,
21 they meet this 5,000 ton requirement. And these include
22 some of the measures that were harder to quantify.

23 Now, we have 53 total measures; so we're
24 only quantifying 34 here between the committed control
25 measures and the contingency measures. So there are

1 still some measures that are not quantified in the plan.

2 And these cover sweeping streets with PM-10
3 certified street sweepers, paving unpaved roads and
4 alleys, another measure that reduces off-road vehicle
5 use.

6 MAG has put an additional \$5 million into
7 the FY07 budget to fund paving of roads and shoulders by
8 local jurisdictions. And then there's an agricultural
9 Best Management Practice measure in the contingency
10 measures.

11 And in this case, what has happened is that
12 the agricultural Best Management Practice's committee has
13 added a new requirement that there be two measures
14 implemented by each farmer in each of the categories:
15 Tilling and harvesting, cropland, and noncrop land.

16 So this measure addresses the second
17 because we had the requirement for them to do one in each
18 of those categories. So this is a new requirement that
19 in effect doubles the number of measures that each farmer
20 has to implement.

21 And then the trackout measure is really
22 supported by a number of other measures in the plan.

23 Trackout is dust that's pulled onto the
24 roads by vehicles that are leaving unpaved surfaces. And
25 it's especially onerous because when other vehicles track

1 over that, the tires return the dust into the air. And
2 so paved road emissions are primarily a problem of
3 trackout from unpaved sources. So this is a big measure.
4 And it's in the contingency group.

5 And this is a bar chart showing you the
6 contribution of the reductions of the contingency
7 measures.

8 You can see the unpaved roads and alleys
9 measures are especially significant as well as the street
10 sweeping with PM-10 certified street sweepers.

11 So the contingency measures, as I
12 mentioned, need to meet that 5,000 ton per year
13 requirement. And you can see that in 2008 we're slightly
14 over; but in 2009 and 2010, we have a nice margin. And
15 the reason for that is that a lot of these measures, for
16 example, the paving of unpaved roads -- A lot of those
17 projects take several years to implement the
18 pre-engineering and design, and the construction takes
19 some time. And so some of these measures aren't
20 completed until 2009 or 2010 even though they might start
21 next year.

22 So as a result, you get more benefit in the
23 out years; and that's why these numbers are continuing to
24 go up after 2008. They're the same measures. You're
25 just getting more benefit from them over time. So the

1 contingency measure requirement is also met in this plan.

2 This plan also has other requirements that
3 are addressed in Chapter 8. Probably one of the more
4 significant is that it establishes a new mobile source
5 emissions budget for transportation conformity. And this
6 budget includes emissions from road construction; from
7 exhausts; tire wear and break wear; from paved roads,
8 including trackout that I mentioned; and from unpaved
9 roads so those four source categories.

10 The budget is established by looking at the
11 2010 controlled emissions for these four categories and
12 adding them up, and then that becomes your budget that
13 you have to stay within for your five year Transportation
14 Improvement Program and long-range transportation plan.
15 So this will be a budget that's used by MAG each time we
16 do a new conformity analysis.

17 The schedule for this plan -- It looks like
18 we are at the beginning here. We're at the public
19 hearing stage, and we expect the MAG Air Quality
20 Technical Advisory Committee to meet on Monday and
21 possibly take action to recommend this plan.

22 And then the regional council is having a
23 special meeting on the 19th to consider this plan. And
24 if all goes well, we hope to submit it to EPA on time at
25 the end of next week.

1 And that concludes my overview.

2 MS. BAUER: Thank you very much, Cathy.

3 And now we're going to turn to the public
4 comment portion of our public hearing.

5 And at this time, public comments are
6 invited. And if you would like to speak, please fill out
7 a form. You can place it in the box or hand it to MAG
8 staff. And please adhere to the three-minute time limit.

9 Now, before we actually call on people, I
10 did receive a comment from Dianne Barker indicating that
11 she may not be able to be here tonight. And she
12 requested that I read her comment into the hearing
13 record. So I'll do that at this time.

14

15 PUBLIC COMMENTS

16

17 MS. BARKER: (As read by Ms. Bauer.)

18 I, Dianne Barker, a resident of the MAG
19 area of Phoenix, Arizona, participate in the reduction of
20 particulates in the nonattainment area.

21 I do this by a multi-modal choice of
22 transportation using the bike and the natural gas-burning
23 buses; walking and driving fuel-efficient, lesser
24 emission producing autos. I like the express HOV bus
25 service for its speed as we mostly pass stalled

1 single-occupancy vehicles on the way to work.

2 Realizing that a greater amount of
3 particles in the MAG area -- see ES 3 diagram of subject
4 referenced draft -- come from particulates, paved and
5 unpaved roads, by ground transportation, I propose a
6 fast-elevated train devoid of paved road particulates.

7 This train should be bi-fueled, state of
8 the art solar-electric or Maglev. It should run from
9 Fiesta Mall; I-60; around the Broadway curve to
10 Deck Park; Phoenix; and further on Grand Avenue to
11 Surprise, Arizona.

12 MS. BAUER: So that completes her remarks.

13 And now I will turn to comments from all of
14 you.

15 And I only have received one slip so far
16 this evening.

17 We would like to call on Rick Tobin.

18 MR. TOBIN: Maybe we can take a moment so
19 the court reporter can have a drink of water.

20 THE COURT REPORTER: Thank you.

21 MR. TOBIN: Good evening. My name is
22 Rick Tobin. I'm an attorney at Lewis and Roca. I'm here
23 today representing the Home Builders Association of
24 Central Arizona and the members of the Arizona Chapter of
25 Associated General Contractors.

1 We've provided written comments earlier
2 today which I know you will thoughtfully consider. We
3 also have oral comments on the Draft MAG 2007 Five
4 Percent Plan for PM-10 for the Maricopa County
5 Nonattainment Area.

6 Both of these organizations, Home Builders
7 and the Associated General Contractors, have participated
8 actively in the air quality stakeholders' process for
9 well over a decade and have taken part throughout the
10 planned development process.

11 It's our actions that we share a common
12 goal of clean air. We support training programs and on
13 site coordinators that will greatly affect our industries
14 because we believe these measures will result in real
15 emissions productions.

16 We also share EPA's concern that this plan
17 must be targeted to address the reasons for
18 nonattainment.

19 We do appreciate the fact that this
20 occurred by dedicated people, not the least of whom are
21 Ms. Arthur and Ms. Bauer.

22 Unfortunately we cannot support the plan.
23 Simply put, the plan will fail to achieve attainment and
24 is unlawful.

25 What we understand is MAG desires to submit

1 the plan by the end of the year and are submitting a
2 fundamentally flawed plan, an unlawful plan, and is far
3 greater than submitting it tardy but a workable one.

4 There's possible EPA report disapproval.
5 If it fails, we'll be back at the table again. And then
6 submitting a slip before the rules have actually been
7 finalized short-circuits the rule-making process and
8 leads a predetermined result.

9 We would urge that MAG take the time to
10 develop a workable lawful plan that actually leads us to
11 attainment.

12 There are at least two reasons why this
13 plan is faulty. First, the plan contains an
14 unrepresented and, therefore, unlawful emissions
15 inventory. And second, the plan is not targeted towards
16 those sources that are a cause of the nonattainment
17 problem.

18 It is an unnecessary burden on our
19 industry. This plan like every other one before it has
20 failed. Once again, it relies virtually entirely on the
21 reductions from the construction sectors to demonstrate
22 emission reductions.

23 These proposals will cost over \$11,000 per
24 single family residential unit. It will not achieve
25 clean air in part because the construction sector is not

1 a significant contributor to the Salt River area.

2 The plan acknowledges -- There are
3 certainly consequences to the plans, and those are
4 included in our written comments.

5 We urge MAG to reconsider its current
6 course and develop a targeted plan that addresses the
7 real reason for our current nonattainment status and
8 leads to attainment. At a minimum, this plan would
9 include an accurate emissions inventory that would help
10 identify relative emissions contributions and impose
11 measures on significant sources such as unpaved roads,
12 unpaved shoulders, and unpermitted facilities.

13 Thank you for this opportunity to put our
14 comments on the record.

15 MS. BAUER: Thank you very much.

16 Do we have any other people wishing to
17 speak this evening?

18 Okay. I would also like to mention that in
19 addition to Mr. Tobin's comments and Ms. Barker's
20 comments, we also received comments from
21 Michael Hernandez, Doreen O'Connell, Pinal County Arizona
22 Center for Law and Public Interest, the Home Builders
23 Association of Central Arizona, Maricopa County, and
24 joint comments from APS and SRP. And so we'll be
25 responding to all of those comments as well.

1 So one more time. Would anyone else wish
2 to enter comments into our hearing record?

3 Okay. At this time, we'll close our public
4 hearing record. Maricopa Association of Governments
5 appreciates your interest in regional air quality issues.

6 Your comments will be presented to the MAG
7 Air Quality Technical Advisory Committee at the
8 December 17, 2007 meeting at 1:30 p.m. over here at MAG
9 in the Saguaro Room. A response to comments will be
10 prepared and included in the planned documents.

11 Again, we thank you for coming to our
12 hearing this evening.

13 Thank you.

14 (The proceedings concluded at 6:00 p.m.)

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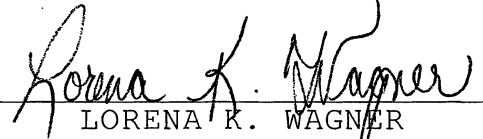
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1 STATE OF ARIZONA)
2) ss.
3 COUNTY OF MARICOPA)
4
5
6

7 I HEREBY CERTIFY that the foregoing was
8 taken before me, LORENA K. WAGNER; that all proceedings
9 had upon the taking of said hearing were taken down by me
10 on a stenograph machine as a backup and thereafter
11 reduced to writing by me; and that the foregoing 25 pages
12 contain a full, true, and correct transcript of said
13 record, all done to the best of my skill and ability.
14

15 WITNESS my hand this 13th day of December,
16 2007.
17
18
19

20 
21 LORENA K. WAGNER
22 Court Reporter
23
24
25



**MARICOPA
ASSOCIATION of
GOVERNMENTS**

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Meeting: Public Hearing on the MAG FIVE PERCENT PLAN

Room: Cholla Room

Date: December 12, 2007

PLEASE SIGN IN BELOW:

NAME	ORGANIZATION/AFFILIATION	MAILING ADDRESS
Chris Horan	Salt River Pima Maricopa Indian Community	10005 Osborn Scottsdale, AZ
David Oihus	State of Arizona	100 N. 15 TH Ave #431 Phoenix, AZ 85007
Joonwon Joo	ADOT	206 S. 17th Ave 320B, Phoenix, AZ
JANE McVay	ADOT	206 S. 17 th Ave. 330B, Phoenix, AZ 85007
Diane Arrast	ADLEA	1110 W. Washington Phoenix 85007
RIC TOBIN	Lewis & Roca	40 N. Central St 1910 Phx 85004
Meg Leal	Salt River Project	PAB 211 PO Box 52025 Phx AZ 85072-2025



PUBLIC HEARING ON THE
MAG FIVE PERCENT PLAN FOR PM-10
FOR THE MARICOPA COUNTY NONATTAINMENT AREA

Date 12 Dec 2007 December 12, 2007

Name Ric Tobin
(Please Print)

Address 40 N. Central Pkx Phone 602-262-5774

Title Attorney

Representing Homebuilders & AGC
(Organization, etc.)

Do you wish to be heard? Yes ☒ No ☐ If Necessary ☐

Signature

**RESPONSE TO PUBLIC COMMENTS ON THE
DRAFT MAG 2007 FIVE PERCENT PLAN FOR PM-10 FOR THE
MARICOPA COUNTY NONATTAINMENT AREA**

DECEMBER 12, 2007 PUBLIC HEARING

The Maricopa Association of Governments (MAG) appreciates the comments made during the public comment period for the Draft MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. An advertised public hearing was conducted on December 12, 2007. Verbal testimony was presented at the December 12, 2007 public hearing. Nine submittals of written comments were received.

COMMENTS FROM DIANNE BARKER (Written comments read into the December 12, 2007 public hearing record as requested by Ms. Barker)

Comment: I, Dianne Barker, a resident of the MAG area, Phoenix, AZ, participate in the reduction of particulates in the nonattainment area. I do this by “multi-modal” choice of transportation using the bike on the natural gas burning buses, walking and driving fuel efficient, lesser emission producing autos. I like the express “HOV” bus service for its speed as we mostly pass stalled single occupancy vehicles on the way to work.

Response: Your efforts to use alternative modes of transportation are commendable.

Comment: Realizing that a greater amount of particulates in the MAG area (see ES 3 of the referenced draft) comes from particulates, paved and unpaved roads, by ground transportation, I propose a fast, elevated train devoid of paved road particulates. This train should be bi-fueled, state of the art solar-electric or maglev. It should run from Fiesta Mall, I-60, around the Broadway Curve to Deck park, Phoenix and, further on Grand Avenue to Surprise, AZ.

Response: According to the 2007 PM-10 emissions inventory, paved road emissions (including trackout) constitute approximately 17 percent of the PM-10 emissions. There are several measures in the MAG 2007 Five Percent Plan for PM-10 which are designed to reduce trackout onto paved roads. As you have commented, it is important to prevent dirt from being tracked out onto the roadway.

COMMENTS FROM RIC TOBIN, LEWIS AND ROCA, ON BEHALF OF THE HOME BUILDERS ASSOCIATION OF CENTRAL ARIZONA AND ARIZONA CHAPTER OF ASSOCIATED GENERAL CONTRACTORS (Testimony at the December 12, 2007 public hearing)

Comment: The Home Builders Association of Central Arizona and the Arizona Chapter of the Associated General Contractors have actively participated in the air quality stakeholders’ process for well over a decade and have taken part throughout the plan development process. We support training programs and on site coordinators because we believe these measures will result in real emissions reductions. We also share EPA’s concern that this plan must be targeted to address the reasons for nonattainment.

Response: The Maricopa Association of Governments has appreciated the participation of the Home Builders Association of Central Arizona and the Arizona Chapter of the Associated General Contractors in the plan development process. As you have commented, we share the common goal of clean air.

Comment: Unfortunately, we cannot support the plan. The plan will fail to achieve attainment and is unlawful. We urge that MAG take the time to develop a workable lawful plan that actually leads to attainment. There are at least two reasons why this plan is faulty. First, the plan contains an unrepresentative and therefore unlawful emissions inventory. Second, the plan is not targeted towards those sources that are a cause of the nonattainment problem.

Response: Regarding the emissions inventory, the Maricopa County Air Quality Department (MCAQD) indicates that the comments provided on December 12, 2007 impugning the adequacy and representativeness of the Maricopa County 2005 base year emissions inventory contained in the Draft MAG Five Percent Plan for PM-10 are nearly verbatim to those submitted to the MCAQD in February 2007 in response to the Public Review Draft of the inventory. These earlier comments (again included by reference in the December 12, 2007 comments) were carefully reviewed by MCAQD, MAG and Arizona Department of Environmental Quality when first received some ten months ago. At that time, MCAQD carefully considered the points raised in these comments, and modified preliminary emissions estimates for some source categories where warranted. The Department's earlier actions and responses addressing these comments, as well as the revised emissions calculations, are contained in the revised version of the emissions inventory published in May 2007. This inventory, including a responsiveness summary outlining the Department's response to all comments received, is contained in its entirety in Appendix B of the Draft MAG Five Percent Plan for PM-10, and has been publicly available on the MCAQD web site since its publication. In addition, the revised inventory results have been presented to the MAG Air Quality Technical Advisory Committee on numerous occasions since that time.

As with prior regional inventories included in previous State Implementation Plan submittals, MCAQD consulted with EPA staff throughout the emission inventory development process. In addition, the 2005 PM-10 emissions inventory included in the Five Percent Plan was released in January 2007 for a thirty day public review and comment period. MCAQD is confident that the Environmental Protection Agency will approve the inventory contained in the Five Percent Plan as meeting or exceeding the requirements of Section 172(c)(3), as has been the case with similar prior inventories (see e.g., 70 Fed. Reg. 34362 [June 14, 2005], 70 Fed. Reg. 11553 [Mar. 9, 2005], 67 Fed. Reg. 48717 [July 25, 2002]).

Regarding targeting the sources of the nonattainment problem, the MAG Five Percent Plan for PM-10 includes fifty-three committed measures targeted at the sources of the PM-10 problem. The fifty-three committed measures are applied to similar sources throughout the entire PM-10 nonattainment area. The sources for which control measures are applied include: Stationary Point Sources; Industrial Processes; Fuel Combustion and Fires; Agriculture; Construction (Residential); Construction (Commercial); Construction (Road); Other Land Clearing; Travel on Unpaved Parking Lots; Offroad Recreational Vehicles; Leaf Blowers Fugitive Dust; Windblown Vacant Dust; Windblown Other; Nonroad Equipment; Exhaust/Tire Wear/Brake Wear; Paved Roads (Including Trackout); and Unpaved Roads.

In an April 20, 2007 letter, the Environmental Protection Agency indicated that, "To target controls or enforcement strategies at selected monitors would leave public health in these other areas unprotected, be inconsistent with the Clean Air Act, and could affect approvability of the plan with attendant consequences." In the letter, EPA also indicates that monitors are sited to provide a representative picture of pollutant concentrations throughout the planning area.

Comment: It is an unnecessary burden on our industry. This plan like every other one before it has failed. Once again, it relies virtually entirely on the reductions from the construction sectors to demonstrate emission reductions. These proposals will cost over \$11,000 per single family residential unit. It will not achieve clean air in part because the construction sector is not a significant contributor to the Salt River area.

Response: As described in the regional emissions inventory, construction emissions (residential, commercial, and road construction) comprise thirty-six percent of the 2005 PM-10 emissions inventory. Construction is being conducted throughout the PM-10 nonattainment area. Construction is a significant contributor around various monitors in the nonattainment area. As EPA has indicated consistently, the measures for the sources need to be applied to all similar sources in the nonattainment area to protect public health, not just around the monitors.

In order for any air quality plan to be successful, the measures need to be implemented, complied with and enforced. The rule effectiveness study conducted by Maricopa County Air Quality Department in 2006 on the regional fugitive dust control rules indicated a very low compliance rate. With the strengthened enforcement and training efforts underway by the County, perhaps compliance by all sources will increase and the plan will be successful.

Comment: We urge MAG to reconsider its current course and develop a targeted plan that addresses the real reason for our current nonattainment status and leads to attainment. At a minimum, this plan would include an accurate emissions inventory that would help identify relative emissions contributions and impose measures on significant sources such as unpaved roads, unpaved shoulders, and unpermitted facilities.

Response: As stated previously, the Maricopa County Air Quality Department has responded to comments on the emissions inventory, refined the 2005 emissions inventory, and is confident that EPA will approve the inventory. The MAG Five Percent Plan for PM-10 includes fifty-three committed measures applied to the sources of PM-10 emissions throughout the region. The plan includes committed measures on unpaved roads, unpaved shoulders, and other unpermitted sources as well as the permitted sources. Chapter Six in the main plan document includes a list of the committed measures. In order for the plan to be effective, the measures must be implemented, complied with and enforced. The rule effectiveness study conducted by Maricopa County Air Quality Department in 2006 on the regional fugitive dust control rules indicated a very low compliance rate. With the strengthened enforcement and training efforts underway by the County, perhaps compliance by all sources will increase and the plan will be successful.

COMMENTS FROM PINAL COUNTY DEPARTMENT OF DEVELOPMENT SERVICES AIR QUALITY CONTROL DISTRICT (Letter from Scott DiBiase dated December 6, 2007)

Main Plan Document

Comment: Chapter 3, pg. 3-5. Agriculture is mentioned to account for 7% of the 2005 annual PM₁₀ emission inventory. However in the pie chart it only accounts for 3%. Why the difference?

Response: The correct percentage for agriculture is 3 percent. The text on page 3-5 has been revised to indicate that the fuel combustion and fires category (industrial natural gas and fuel oil, commercial/institutional natural gas and fuel oil, and residential natural gas, wood and fuel oil) is 7 percent of the 2005 PM-10 emissions.

Comment: In an effort to streamline the plan, perhaps the paragraph describing the authority of the Maricopa County Board of Supervisors could be used once at the beginning of Chapter 6 as an introduction to Part 1: Measures Related to the Suggested List.

Response: It is important that the authority of the Maricopa County Board of Supervisors accompany the specific measure commitment made by the County. Part 1 contains commitments from other entities as well. Therefore, the authority of the Maricopa County Board of Supervisors would not lend itself to the introduction of this section.

Comment: Chapter 6, pg. 6-30. It appears that the information related to commitment number 6 on page 6-30 is identical to measure number 3 on page 6-25. Perhaps the part related to Rule 316 can be removed from the measure number 6 since the measure only relates to better tarping requirements.

Response: Maricopa County, in many cases, combined several measures together. It was not possible to separate them out without inadvertently distorting the commitment for the measures.

Comment: Chapter 6, pg. 6-77. In the Town of Gilbert section, first paragraph, it is mentioned that the Town has CMAQ funding available to purchase five PM-10 certified street sweepers over the next three years. Perhaps they meant the Town has funding available over the next three years for local matching in case there are CMAQ funds available and they qualify and are approved for street sweepers in the CMAQ process.

Response: The Town of Gilbert correctly indicated that CMAQ funding has been allocated for five PM-10 street sweepers.

Comment: Typographical errors were identified.

Response: Thank you. They have been corrected.

Comment: Chapter 4, pg. 4-47. The total cost (inspection & enforcement) for conducting nighttime inspection (\$479.31) appears to be off a little. Assuming that amount is calculated by adding \$3.94+198.68+276.99 which equals \$479.61. This comment also pertains to Measure 23 on page 4-58.

Response: The cost has been corrected.

Comment: Chapter 8, pg. 8-30. Perhaps the word “Too” should be “To” in the following sentence, “Too offset some of these modeling deficiencies, MAG contractors...”.

Response: This error has been corrected.

Comment: Chapter 8, pgs. 8-62 & 8.64. Perhaps the 2010 background concentration for the Greenwood Area and West Phoenix should be 32.7 ug/m³ since there was a 20% reduction applied to the 2005 background concentration of 40.9 ug/m³? If so, the Peak 2010 PM-10 concentration for Greenwood and West Phoenix would be 147.8 ug/m³ and 152.7 ug/m³ respectively.

Response: The 20% reduction only applies to the anthropogenic portion of the background which is 32.1 ug/m³ of the 40.9 ug/m³ (see discussion on page 8-59). So the 2010 background values shown for the Greenwood and West Phoenix rollback modeling demonstrations are correct.

Technical Support Document

Comment: In review of the spreadsheet provided by Cathy Arthur, the following item was found: For measure 28 it appears that the 50% credit reduction for stabilizing (compared to paving) wasn't taken for the Apache Junction stabilization project.

Response: This error has been corrected.

Comment: Some of the 2005 EI totals in Table II-2 (pg. II-15) of the TSD (i.e. residential, commercial and road construction) don't match the MCAQD 2005 EI hand out from the 11/15/07 AQ planning team meeting. Perhaps the updated MCAQD 2005 EI numbers (especially the construction) should be incorporated into the TSD?

Response: The official base for the Five Percent Plan is the 2005 Periodic emissions Inventory that MCAQD completed in May 2007. However, MCAQD has provided MAG with updated earthmoving permit acreage for the PM-10 nonattainment area for 2004-2007 and these new data have been used to update the construction emissions for 2007-2010. The revised construction emissions and new growth factors are shown on pages II-5 and II-6 of the final TSD.

Comment: Page III-3 of the TSD – non-metallic mineral processing activities – 2005 Emission of 802 tons/yr. I'm not sure where that came from. Table 3.3-28 (pg. 59) of the MCAQD 2005 EI has non-metallic mineral processes annual PM10 emissions for the NAA of 430.89 tons/yr.

Response: The 802 tons/year is based on data MCAQD extracted from the 2005 PEI. The breakout of the 802.41 tons by type of non-metallic mineral processing activity has been added to page III-3 of the final TSD. The sources impacted by Rule 316 include point sources, ADEQ-permitted portables, and mining and quarrying, area sources which emit 430.89 tons/year.

Comment: Page III-5 of TSD – the 2008 uncontrolled construction emissions (65,297) in the top table is different than the 2008 uncontrolled construction emissions in previous tables on pages III-2 & III-3. Why the difference?

Response: In the final TSD, the uncontrolled construction emissions in 2008 are now equivalent to those in 2009 and 2010.

Comment: Perhaps the clarity of the tables relating to miles of unpaved shoulders and roads and alleys to be paved or stabilized (pages III-11 and IV-8 of the TSD, Measure #28 table in the main plan, Chapter 7, pg. 7-6) can be addressed in the final document. In their current version the number of miles of paved or treated road, alley or shoulder seems a little misleading. For example, Maricopa County has committed to paving 13.6 miles of unpaved shoulders in 2007 and 5.5 miles per year after that. In the current version of the table on page III-11 it appears that Maricopa County is going to pave 19.1 miles of unpaved shoulders in 2008, 24.6 miles in 2009 and 30.1 miles in 2010. Perhaps an explanation can be added to the text or a descriptor to the title of the tables in question that explain the number of miles to be paved or stabilized by jurisdiction per year in the tables is cumulative.

Response: An explanation that the miles in the tables are cumulative has been added to the text of the final TSD and Chapter 7 of the Plan.

Comment: Typo on page III-12 of the TSD. In the first sentence of the third paragraph the word “factor” is misspelled with the letter p instead of the letter o.

Response: This typo has been corrected.

Comment: Page III-13 of the TSD – space missing between “of” and “15” in first sentence of third paragraph.

Response: The space has been added.

Comment: Page III-15 of the TSD. The table with the rule 310.01 compliance for measure #33, shouldn't the compliance rate be 75% as mentioned in the narrative above the table?

Response: This error has been corrected.

Comment: Page III-16. A space is needed between “of12” in the measure #35 paragraph.

Response: The space has been added.

Comment: Section V (Salt River Area Modeling) of the TSD – page 3. It appears that an extra line was added after only two words “experienced in” in the third paragraph. The sentence continues in the line below with “2006, the earliest attainment...”.

Response: This error has been corrected.

Comment: Section 4: Inventory Development (pg. 35) – “ADEC” appears to be a typo in the “Emission Factors” section at the bottom of the page in the sentence “As with the MCAQD and ADEC emission inventories,”.

Response: ADEC has been changed to ADEQ.

Comment: Section 4: Inventory Development (pg. 42) – The 65 mph in the bow wake emission factor equation $(12.47 \text{ g/mi} \times \{35\text{mph}/65\text{mph}\}^2)$ appears to be a typo. Perhaps it’s supposed to be 60 mph?

Response: This typo has been corrected.

Comment: Section 5: Air Quality Modeling, section 5.2 Source Configuration (pg. 57) – In the *Construction* paragraph the word “factory” may need to be changed to “factor” in the sentence “The information in these records was combined with emission **factory** and activity assumptions employed in the County’s 2005 Emission Inventory Report....”.

Response: This error has been corrected.

Comment: Section 5: Air Quality Modeling, section 5.2 Source Configuration (pg. 57) – In the High Wind paragraph there’s a period (.) after the word alluvial where a comma (,) needs to be in the middle of the following sentence “For agriculture, alluvial. And unpaved parking lots, the emissions...”.

Response: This error has been corrected.

Comment: Section 6: Control Measure Analysis, section 6.12 (pg. 96) – Local truck yard – travel emissions and section 6.13 – Local truck yard – windblown emissions. Perhaps both of the emissions reductions for these measures should be increased since the operations of the truck yard east of the Durango Complex monitor have ceased. Perhaps the 2010 prediction of 8.95 ug/m^3 for the local truck yard should be set to zero in Table 7-6 (pg. 112) since activities at the yard have ceased?

Response: The truck yard property is available for lease and it is uncertain what the future activity on the property will be. To be conservative, it has been assumed that there continues to be a truck yard at that location.

Comment: Section 6, table 6-7 (pg. 102) & Main Document Table 8-6 (pg. 8-48). Why is there a 50% Control measure reduction taken for windblown alluvial soil? The only place in the control measure analysis section of the TSD where windblown alluvial soils are mentioned is in a generic sentence on page 90 indicating that “...over 50% of the high wind day impacts were caused by

windblown dust from alluvial areas, nearby disturbed soil areas, and regional background sources.”. I’m not sure how that can be considered a 50% control measure reduction. If there is a legitimate reason for a 50% control measure reduction for windblown alluvial soil then perhaps it should be included in the control measure analysis section.

Response: The 50% reduction in alluvial soils has been removed from the analysis and the TSD and Plan have been updated to reflect this change.

Comment: Page 106, last paragraph. Perhaps going into detail for the tonnage reduction from windblown emissions in 2010 is necessary. A simple explanation of conversion of land use from agriculture to residential and commercial uses and paving of unpaved roads, shoulders, etc. would limit dust production in 2010 and be a sufficient explanation compared to “...are expected to be significant.”.

Response: Additional explanation has been added to this paragraph.

COMMENTS FROM MICHAEL J. HERNANDEZ (Written comments submitted on December 11,2007 by email)

Comment: The Government Accountability Office (GAO) today released the following reports, testimony and correspondence on Low-Level Radioactive Waste Management: Approaches Used by foreign Countries May Provide useful Lessons for Managing U.S. Radioactive Waste.

Response: Thank you for the information. However, the subject for the public comment period is the MAG Five Percent Plan for PM-10.

COMMENTS FROM ARIZONA DESERT EVENTS (Letter from Doreen O’Connell, Arizona Desert Events, dated December 11, 2007 received by facsimile)

Comment: Arizona Desert Events is a company that for the past eleven years has offered Educational Nature Historical tours of the Sonoran Desert. We operate these tours on State Trust land in the North Scottsdale area. Many of the personnel at the Arizona State land Department can vouch for my commitment to caring for the land. We would like to make it known that our tours travel at a speed of about five miles per hour while offroad. During our tour, we actually drive offroad for about thirty minutes. The majority of our tour is done on foot during our nature hikes.

The ground in this area is mostly granite and there is very little soft dirt. We feel that our contribution to the dust issue is extremely insignificant. Stopping us from operating will do nothing to help with the particulates in the air. It would cause great hardship to our family and be a huge injustice to the many visitors who come to our great state to be part of the true Arizona that can only be experienced on our tours. I hope that my voice will be heard and that the powers to be will realize that the service we offer our visitors has been part of Arizona’s appeal for over thirty years.

Response: Thank you for your comments. The Arizona Legislature passed S.B.1552 in 2007 which requires a city or town in Area A, no later than March 31, 2008 to adopt, implement and enforce an ordinance that prohibits the operation of any vehicle, including an off-highway vehicle, an all-terrain

vehicle, or an off-road recreational motor vehicle, on an unpaved surface that is not a public or private road, street or lawful easement and that is closed by the landowner by rule or regulation of a federal agency, this state, a county or a municipality or by proper posting if the land is private land. This section does not apply to the operation of vehicles used in the normal course of business or the normal course of government operations (A.R.S. § 9-500.27 A. and B.).

COMMENTS FROM MARICOPA COUNTY AIR QUALITY DEPARTMENT (Letter from Robert J. Kard dated December 12, 2007 by email)

Comment: We commend MAG on the extensive field and technical work that went into the development of the Five Percent Plan for PM-10. Our comments pertain to the Main Plan Document and the Technical Support Document.

Response: Thank you for your comment.

Main Plan Document

Comment: PM-10 Formation, pg. 3-1: The formation of PM-10 is not dependent on the weather. The transport and dispersal, or lack thereof, of PM-10 is dependent upon weather conditions. Particulate matter is formed from anthropogenic or natural sources which either release aerosols and fine particles into the atmosphere or disturb the earth's crust allowing other factors (such as high winds or vehicular traffic) to disperse the particles. Weather conditions, such as stagnant air masses, severe temperature inversions, and high winds, exacerbate the problem; but the actual formation of the pollutant is still independent.

Response: Text has been added to page 3-1 to clarify that the formation of PM-10 particulate pollution rather than PM-10 is dependent upon factors such as stagnant air masses, severe temperature inversions in the winter, high winds in the summer, and fine, silty soils characteristic of desert locations.

Comment: Air Quality Monitoring Data and Trend Analysis, pg. 3-8, Table 3-2: The South Phoenix monitoring site switched to a continuous sampling schedule in July 2007. This should be noted in Table 3-2. Also, ADEQ no longer operates monitoring equipment at the West Phoenix site; therefore, in Table 3-2 for the West Phoenix site, MCAQD should be listed as the operating agency rather than MCAQD/ADEQ.

Response: Table 3-2 and text on page 3-7 have been revised to reflect that the South Phoenix monitoring site has a continuous sampling schedule. Table 3-2 has also been revised to indicate that MCAQD is the operating agency for the West Phoenix monitoring site.

Chapter Seven - Demonstration of Annual Five Percent Reductions in PM-10 Emissions

Comment: There are a number of discrepancies between figures cited in Chapter 7 of the Main Plan, and those used in Chapter III (Committed Measures) of the TSD, as follows: (a) Chapter 7 indicates an increase in compliance rate for Measure 2 of 55 percent in 2009 and 56 percent in 2010 (p. 7-2).

The TSD on pg. III-1 indicates 54 percent for 2009 and 55 percent in 2010. Based on the calculations, the percentages in Chapter 7 need to be corrected to match the TSD.

Response: The text in Chapter 7 has been corrected to match the TSD.

Comment: Chapter 7 indicates an increase in compliance rate for Measure 3/16 for Rule 316 sources of 5 percent in 2009 and 7 percent in 2010. The TSD on pg. III-3 indicates a 6 percent rise in 2009 and a 9 percent rise in 2010. Based on the calculations, the percentages in Chapter 7 need to be corrected to match the TSD.

Response: The text in Chapter 7 has been corrected to match the TSD.

Comment: Chapter 7 indicates an increase of 5 percent in the compliance rate for unpaved parking lots in Measure 25 (pg. 7-5). The TSD indicates only a 1 percent increase for this measure (pg. III-9). Based on the calculations, Chapter 7 needs to be corrected to match the TSD.

Response: The text in Chapter 7 has been corrected to match the TSD.

Technical Support Document

Chapter II. Base Case PM-10 Emissions Inventories:

Comment: Pg. II-2, Industrial Processes: The value of 3,137 tons PM-10 used here should be corrected to 3,226 TPY, as indicated in Table II-1 on pg. II-15.

Response: The text in the TSD has been corrected.

Comment: Pg. II-2, Agriculture: A table showing trends in harvest acreage used to derive the growth factors should be included in the TSD.

Response: Tables showing the trends in crop acreage and the resultant agricultural growth factors have been added to the TSD.

Comment: Pg. II-3, Construction: The acreage data for 2004–2006 listed in this section should be updated to reflect the latest quality-assured geocoded data from MCAQD. The correct acreages, and resultant growth rates, are shown below:

	2004	2005	2006	2007	Avg	4-yr Growth rate Avg/2005
Revised acreage:						
Comm./Industrial	8,073	9,740	12,759	10,748	10,330	1.06
Residential	36,738	43,509	39,037	39,865	39,787	0.91
Road	2,685	4,199	4,642	3,885	3,853	0.92
Other land clearing	<u>8,526</u>	<u>6,204</u>	<u>8,548</u>	<u>11,475</u>	<u>8,688</u>	1.40
Total	56,021	63,652	64,986	65,973	62,658	

Response: Chapter II has been revised to include the new construction permit data provided by MCAQD and the growth factors for construction emissions by category have been updated to reflect this change. The base case and controlled construction emissions for 2007-2010 have been recalculated based on the latest permit data.

Comment: Pp. II-4 -5, Windblown Dust: The methodology used to estimate the base year windblown dust emissions is not well documented. We were unable to locate the reference to the documentation cited on pg. II-4 ("MAG, Windblown Dust Emission Calculations for PM-10 Nonattainment Area for the Years 2001 to 2005, July 31, 2007 [Appendix II]).

Response: The documentation of windblown dust emissions calculations was inadvertently omitted from the Appendix to the draft TSD. It has been added to the TSD as Appendix II, Exhibit 3.

Comment: Pg. II-9, Reentrained Dust from Paved Roads: The reference to "Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Projects, August 15, 2005" should be Appendix II, Exhibit 2 rather than Exhibit 3.

Response: This has been corrected.

Comment: Pg. II-10, Reentrained Dust from Paved Roads: Data on lane miles swept, ADT per lane, and sweeping frequency for each sweeper purchased in FY2001-2006 should be provided in the TSD to allow the reader to reproduce the methods used to calculate emission reductions.

Response: This data has been added to the TSD as Exhibit 4 in Appendix II.

Comment: Pg. II-13, 1st paragraph, Travel on Unpaved Roads: Why was 25 ADT (and not 50) used for lot splits (essentially halving the ITE trip rate of 10 trips per residential unit used for all other unpaved road emission calculations)?

Response: 25 ADT was used because it reflects the average weekday traffic level for 2.5 dwelling units making 10 trips per weekday. The 2.5 dwelling units was used because it is the midpoint between 0 and 5 dwelling units, where the 5 dwelling units would be the maximum due to a lot split. Upon further consideration, it was determined that 30 ADT would be more appropriate than 25, because the number of dwelling units on a lot with a new unpaved road would be at least one, but no more than 5, with a midpoint of 3. Applying the ITE trip rate of 10 trips per dwelling unit, results in an ADT for lot splits of 30. The growth rates for unpaved road emissions were changed to increase the ADT from 25 to 30. This is documented on page II-15 of the final TSD.

Chapter III. Evaluation of Committed Control Measures:

Comment: Pg. III-2: Table, Rule 310 Compliance: It's unclear what the footnotes (1-3) on various items refer to.

Response: The footnotes have been removed.

Comment: Pg. III-3, the 2005 base case emissions for non-metallic mineral processing (NMMP) activities of 802 tpy is derived from earlier correspondence (emails from Bob Downing and Matt Poppen to Cathy Arthur, 7/17/07), rather than an explicit breakout in the 2005 Periodic Emissions Inventory (PEI). A summary table similar to that below would clarify the origin of this figure. In addition, the reductions resulting from Rule 316 compliance should be apportioned between stationary point sources and industrial processes.

Point sources	215.05
Area sources:	430.89
ADEQ-permitted portables	101.70
Mining and quarrying	<u>54.77</u>
Total	802.41

Response: A table with the breakout of emissions from sources subject to Rule 316 has been added to page III-3 of the TSD. In addition, reductions resulting from Rule 316 compliance have been apportioned to stationary point sources and industrial processes based on the share of point source to other sources in the emissions shown above.

Comment: Pg. III-5, the combined impact of Measures 30, 33, 8, 31, and 32 for vacant lots results in Rule 310.01 compliance rate above 80%.

Response: In the final TSD and plan, the benefits of these vacant lot control measures have been reduced, so that their combined impact is less than the emissions reduction that would be achieved if there were a Rule 310.01 compliance rate of 80 percent.

Comment: Pg III-17, the references to Measures 43-45 (M43-45) should be changed to Measures 36-38. Pg. III-5: All references to M37-40 should be changed to M30-33. Pg. III-6: All reference to Measure #31 or M31 should be changed to Measure #25 or M25.

Response: These corrections have been made.

Comment: Construction Emissions:

On pp. III-3, III-7, and III-17, the figures for Construction Emissions after the application of various control measures (M3&16, M9/10/44, and M43-45, respectively) should be recalculated to reflect only 75% of the year's anticipated emission reductions, as these measures will not take effect until the end of the 1st quarter 2008 (as stated in the text).

Response: The numbers in the tables have been corrected.

Comment: Committed Measures #8 and #25 in reference to unpaved parking lots incorrectly apply compliance and control rates:

(a.) When emissions for this category were developed (see MCAQD 2005 PEI) the resulting emissions were uncontrolled. Therefore, it is inappropriate to use the Rule 310.01 compliance rate (68%) and a control rate (90%) to develop uncontrolled emissions as is done on pg. III-5 for measure # 8 and pg. III-9 and -10 for measure # 25. Consequently, some other means of attributing emissions

reductions (other than an increase in the 310.01 compliance rate) needs to be developed for measure # 8 and applicable parts of measure # 25.

(b.) If compliance rate and control efficiency are to be applied, the 90% control efficiency for unpaved parking lots is too high. In the 1999 Revised Serious Area Particulate Plan for PM-10, MAG assumed an average control efficiency of 74.9% (50% control efficiency for gravel, 75% control efficiency for chemical stabilizers, and 99.7% control efficiency for paving).

Response: The unpaved parking lot emission reductions have been recalculated using percentage reductions in unpaved parking lot emissions instead of increases in compliance rates.

Comment: Committed Measures #8, #30, #33 in reference to vacant lots may be incorrectly applying compliance and control rates:

(a.) It may be inaccurate to apply compliance and control rates for vacant lots as it appears that emissions for this category were developed without the use of compliance and control rates. The methodology described in pp. II-4 and -5 does not mention using compliance or control rates in deriving emissions. Further, the detailed windblown dust emission calculation documentation cited on pg. II-4 could not be located in the Five Percent Plan (See comment #7).

(b.) If compliance rate and control efficiency are to be applied, the 90% control efficiency rate for vacant lots is too high. In the 1999 Revised Serious Area Particulate Plan for PM-10, MAG assumed an average control efficiency of 88.6% assuming 70% control efficiency for gravel, 97% control efficiency for chemical stabilizers, and 99% control efficiency for mulch or vegetative cover.

Response: Reductions for existing control measures were applied to vacant lot and alluvial areas, as documented in the windblown dust methodology that has been added as Appendix II, Exhibit 3. The control efficiency for vacant lots has been reduced from 90 percent to 88.6 percent in the calculations for vacant lot emission reductions.

Comment: Pg. III-12, 3rd paragraph, 1st sentence, "factor" is misspelled.

Response: This typo has been corrected.

Comment: Pg. III-11, Measure # 28 - Pave or stabilize unpaved shoulders:

The average weekday traffic on the roads with unpaved shoulders used to calculate emission reductions (for both the commitments and the SB1152 plans) should be provided in the TSD. Also, a sample equation showing how the benefit of paving/stabilizing unpaved shoulders was quantified would be helpful.

Response: The detailed assumptions and results have been added as Appendix III, Exhibit 1.

Comment: Pg. III-16 & 17: Documentation on how ADEQ calculated emission reductions for measures #35, #47, #48 needs to be included in the TSD.

Response: The ADEQ documentation will be included in the TSD if it is provided to MAG before the Plan is submitted to EPA.

Chapter IV. Evaluation of Contingency Measures

Comment: Pg. IV-1, the controlled PM-10 emissions for onroad exhaust, tire/brake wear are different from the emissions shown in Table III-2 on pg. III-21.

Response: This discrepancy has been corrected.

Comment: Pg. IV-7, Measure #26 - Pave or stabilize existing public dirt roads and alleys: The average weekday traffic on the roads and alleys to be paved or stabilized should be provided in the TSD to allow the reader to reproduce the methods used to calculate emission reductions.

Response: The detailed assumptions and results have been added as Appendix IV, Exhibit 1.

Comment: Pg. IV-8, Measure #26- Pave or stabilize existing public dirt roads and alleys: In the table showing centerline miles of roads and alleys to be paved or stabilized, it appears the miles are cumulative miles paved/stabilized. If so, this should be noted.

Response: Text has been added to indicate that the miles are cumulative.

Comment: Pg. IV-10, Measure #27 - Limit speeds to 15 mph on high traffic dirt roads: How were emission reductions calculated for this measure? The only information provided is road miles by jurisdiction.

Response: Additional data necessary to replicate the calculation of emissions reductions has been included in the table on page IV-10.

Comment: Pg. IV-10, Measure #28 - MAG Allocate Additional Five Million Dollars in FY 2007 Federal Funds for Paving Dirt Roads and Shoulders:

We were unable to reproduce the emission reductions shown in the table for the Glendale, Queen Creek (the 5.5 mile project), and Scottsdale paving projects based on the information provided in the TSD.

Response: The AADTs shown for the shoulder paving projects have been reduced by 50 percent to represent the traffic on one side of the road adjacent to the shoulder being paved. If the AADT in the table for these projects is doubled and the result is greater than or equal to 10,000 ADT, the benefit of that project is 2.14 grams per mile minus 0.65 grams per mile. If the AADT is less than 10,000 ADT the factors are 3.51 grams per mile minus 1.70 grams per mile. This methodology is explained on page III-12 of the TSD. The projects cited in the comment fall into the greater than 10,000 ADT category and therefore, the emissions reductions for these projects would be calculated as 2.14 grams per mile minus 0.65 grams per mile times the miles and AADTs for that project as shown in the table for Measure #28. Text has been added in the TSD to clarify that the AADTs for shoulders represent half of the actual AADT on the adjacent arterial.

COMMENTS FROM ARIZONA PUBLIC SERVICE AND SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT (Letter dated December 12, 2007 from Kevin Wanttaja, SRP, and Scott Davis, APS, by certified mail)

Comment: Arizona Public Service (APS) and Salt River Project Agricultural Improvement and Power District (SRP) appreciate the efforts undertaken by the Maricopa Association of Governments to develop the Five Percent Plan for PM-10 and understand the consequences of not meeting EPA's deadline and of not showing compliance with the National Ambient Air Quality Standards. APS and SRP have been actively involved in the public dialogue on SB 1552 as well as in the development of the proposed rules, such as the fugitive dust rules proposed by the Maricopa County Air Quality Department. We have participated in numerous public hearings and have submitted written comments that have hopefully provided some benefit to the development of the Five Percent Plan.

Response: The Maricopa Association of Governments has appreciated the participation of APS and SRP in the development of the Five Percent Plan for PM-10.

Comment: APS and SRP are concerned, however, that MAG is proposing to take credit in the Five Percent Plan for reductions attributable to the Maricopa County Air Quality Department rules for which the rulemaking process has not yet been completed. MAG proposes to take credit for reductions attributable to proposed revisions to Rules 310 and 310.01, rules about which APS and SRP have expressed significant concerns.

Response: In the Five Percent Plan for PM-10, MAG proposed to take numeric credit for measures based upon the commitments made by the appropriate governing body of the various entities. The two volumes of commitments for implementation documents contain the commitments from the jurisdictions, including the Maricopa County Board of Supervisors. On September 10, 2007, the Maricopa County Board of Supervisors passed a resolution to implement measures in the MAG 2007 Five Percent Plan for PM-10.

Comment: In particular, APS and SRP are concerned that MAG is taking credit for reductions attributable to Control Measure # 38 - No Visible Emissions Across the Property Line, as described on page 6 of the attached document. MAG's proposed Five Percent Plan assumes that the MCAQD will finalize the rule 310 and 310.01 revisions as proposed. This assumption may restrict MCAQD's ability to consider and respond to public comments and concerns, and effectively would predetermine the final rules without full consideration of public input.

Response: As stated previously, in the Five Percent Plan for PM-10, MAG proposed to take numeric credit for measures based upon the commitments made by the appropriate governing body of the various entities. The two volumes of commitments for implementation documents include the commitments from the jurisdictions, including the Maricopa County Board of Supervisors. On September 10, 2007, the Maricopa County Board of Supervisors passed a resolution to implement measures in the MAG 2007 Five Percent Plan for PM-10.

COMMENTS FROM THE ARIZONA CENTER FOR LAW IN THE PUBLIC INTEREST (Letter from Joy E. Herr-Cardillo dated December 12, 2007 by email)

Comment: Particulate pollution has been a serious problem in the Valley for the past two decades. Since they were first adopted, the region has never attained the PM-10 standards and has a long history of proposing inadequate plans to address the problem. Now, having once again failed to meet its attainment deadline, the state is required under Section 189(d) of the Clean Air Act to submit a new plan. In addition to the attainment demonstration and five percent requirements, the plans under Section 189(d) must address all applicable requirements of the Clean Air Act.

Response: The MAG Five Percent Plan for PM-10 is designed to address the attainment demonstration and five percent requirements as well as all applicable requirements of the Clean Air Act.

Comment: As a serious nonattainment area for PM-10, the plan must include Best Available Control Measures (BACM) for all significant sources of PM-10 and PM-10 precursors. Also, because the region obtained a five year extension of its attainment deadline, its plan must include Most Stringent Measures (MSM). The state cannot rely upon the BACM/MSM demonstrations in the 1999 Serious Area Plan as it was prepared ten years ago and is outdated. Therefore, an updated BACM/MSM analysis should be included in the plan. Moreover, as EPA pointed out in comments to Maricopa County last July 2007, the County's Rule 316 does not satisfy the BACM/MSM requirement. Another control measure included in other plans but not addressed in the Five Percent Plan is CARB diesel.

Response: Section 189(d) of the Clean Air Act indicates that "In the case of a Serious PM-10 nonattainment area in which the PM-10 standard is not attained by the applicable attainment date, the State in which such area is located shall, after notice and opportunity for public comment, submit within 12 months after the applicable attainment date, plan revisions which provide for attainment of the PM-10 air quality standard and, from the date of submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory for such area."

The BACM/MSM requirements are required under Section 189(b)(1). The MAG Five Percent Plan for PM-10 includes committed control measures above and beyond the measures in the Revised MAG Serious Area Plan for PM-10. Based upon the 2005 PM-10 Emissions Inventory prepared by the Maricopa County Air Quality Department, vehicle exhaust/tire wear/brake wear represents two percent of the emissions inventory and vehicle exhaust by itself is less than one percent of the inventory.

Comment: We realize that the annual standard has been revoked by EPA, however, because the area failed to attain the standard by the December 2006 deadline, we believe that it is required under the Clean Air Act to demonstrate attainment of both the annual and 24 hour PM-10 standards.

Response: Effective December 18, 2006, the Environmental Protection Agency revoked the annual PM-10 standard. In the EPA Fact Sheet, EPA indicated the agency is revoking the annual PM-10 standard, because available evidence generally does not suggest a link between long-term exposure

to current levels of coarse particles and health problems. EPA further indicated that EPA is protecting all Americans from effects of short-term exposure to inhalable coarse particles by retaining the existing daily PM-10 standard of 150 micrograms per cubic meter.

Comment: The state has failed to include true contingency measures in its plan, and instead, attempts to satisfy this requirement of the ACT by designating implemented control measures as contingency measures by not including the emissions reductions from those measures in the attainment demonstration. The purpose of contingency provisions is to assure that the state will act promptly to protect public health if a milestone for reasonable further progress is not met. Obviously, if the so called contingency measures are already being implemented when a milestone is missed, there is nothing to suggest that their continued implementation would ensure that the situation will be corrected.

Response: The Environmental Protection Agency allows for the early implementation of contingency measures as indicated in the August 13, 1993 EPA memorandum on the Early Implementation of Contingency Measures for Ozone and Carbon monoxide Nonattainment Areas. Committed measures that have already been implemented may be contingency measures if they are not needed to show attainment, do not hasten attainment, and in this case if they are not needed to meet the five percent reduction in emissions requirement.

Comment: Finally, we are disappointed that the state did not even consider adopting an indirect source review program like that implemented in the San Joaquin Valley. In San Joaquin Valley, they have established an indirect source review program in order to reduce emissions of Nox and PM-10 from new development projects. There, like here, new development contributes to the air pollution problems by increasing both the number of vehicles and the vehicle miles traveled. The advantage of including the indirect source review is that it addresses future sources of pollution and therefore, allows the state to address both the immediate impacts of construction (i.e. Rule 310) and the longer term impacts on air quality once the construction is complete.

Response: Based upon the 2005 PM-10 Emissions Inventory prepared by the Maricopa County Air Quality Department, vehicle exhaust/tire wear/brake wear represents two percent of the emissions inventory and vehicle exhaust by itself is less than one percent of the inventory. The San Joaquin Valley has a problem with the formation of secondary particulates and consequently benefits from reducing NOx emissions. The PM-10 problem in the Maricopa County nonattainment area is predominantly from fugitive dust not secondary particulate formation.

COMMENTS FROM THE HOME BUILDERS ASSOCIATION OF CENTRAL ARIZONA AND ARIZONA CHAPTER OF ASSOCIATED GENERAL CONTRACTORS (Letter from Albert H. Acken dated December 12, 2007)

Comment: The Home Builders Association of Central Arizona and the Arizona Chapter of the Associated General Contractors have actively participated in the air quality stakeholders' process for well over a decade and have taken part throughout the plan development process. We support training programs and on site coordinators because we believe these measures will result in real emissions reductions. We also share EPA's concern that this plan must be targeted to address the reasons for nonattainment.

Response: The Maricopa Association of Governments has appreciated the participation of the Home Builders Association of Central Arizona and the Arizona Chapter of the Associated General Contractors in the plan development process. As you have commented, we share the common goal of clean air.

Comment: Unfortunately, we cannot support the plan. Accordingly, the Home Builders Association could not support SB 1552 because it did not do enough to target real problems such as unpaved roads and trackout from unpermitted sources. The plan will fail to achieve attainment and is unlawful. We urge that MAG take the time to develop a workable lawful plan that actually leads to attainment. There are at least two reasons why this plan is faulty. First, the plan contains an unrepresentative and therefore unlawful emissions inventory. Second, the plan is not targeted towards those sources that are a cause of the nonattainment problem.

Response: Regarding the emissions inventory, the Maricopa County Air Quality Department (MCAQD) indicates that the comments provided on December 12, 2007 impugning the adequacy and representativeness of the Maricopa County 2005 base year emissions inventory contained in the Draft MAG Five Percent Plan for PM-10 are nearly verbatim to those submitted to the MCAQD in February 2007 in response to the Public Review Draft of the inventory. These earlier comments (again included by reference in the December 12, 2007 comments) were carefully reviewed by MCAQD, MAG and Arizona Department of Environmental Quality when first received some ten months ago. At that time, MCAQD carefully considered the points raised in these comments, and modified preliminary emissions estimates for some source categories where warranted. The Department's earlier actions and responses addressing these comments, as well as the revised emissions calculations, are contained in the revised version of the emissions inventory published in May 2007. This inventory, including a responsiveness summary outlining the Department's response to all comments received, is contained in its entirety in Appendix B of the Draft MAG Five Percent Plan for PM-10, and has been publicly available on the MCAQD web site since its publication. In addition, the revised inventory results have been presented to the MAG Air Quality Technical Advisory Committee on numerous occasions since that time.

As with prior regional inventories included in previous State Implementation Plan submittals, MCAQD consulted with EPA staff throughout the emission inventory development process. In addition, the 2005 PM-10 emissions inventory included in the Five Percent Plan was released in January 2007 for a thirty day public review and comment period. MCAQD is confident that the Environmental Protection Agency will approve the inventory contained in the Five Percent Plan as meeting or exceeding the requirements of Section 172(c)(3), as has been the case with similar prior inventories (see e.g., 70 Fed. Reg. 34362 [June 14, 2005], 70 Fed. Reg. 11553 [Mar. 9, 2005], 67 Fed. Reg. 48717 [July 25, 2002]).

Regarding targeting the real sources of the nonattainment problem, the MAG Five Percent Plan for PM-10 includes fifty-three committed measures targeted at the real sources of the PM-10 problem. The fifty-three committed measures are applied to similar sources throughout the entire PM-10 nonattainment area. The sources for which control measures are applied include: Stationary Point Sources; Industrial Processes; Fuel Combustion and Fires; Agriculture; Construction (Residential); Construction (Commercial); Construction (Road); Other Land Clearing; Travel on Unpaved Parking Lots; Offroad Recreational Vehicles; Leaf Blowers Fugitive Dust; Windblown Vacant Dust;

Windblown Other; Nonroad Equipment; Exhaust/Tire Wear/Brake Wear; Paved Roads (Including Trackout); and Unpaved Roads.

In an April 20, 2007 letter, the Environmental Protection Agency indicated that, “To target controls or enforcement strategies at selected monitors would leave public health in these other areas unprotected, be inconsistent with the Clean Air Act, and could affect approvability of the plan with attendant consequences.” In the letter, EPA also indicates that monitors are sited to provide a representative picture of pollutant concentrations throughout the planning area.

Comment: Fundamentally, the MCAQD’s methodology for the emissions inventory is flawed. For example, under its methodology, a 500 acre site with a cumulative total of 51 feet of trackout from the site’s various exits would be deemed 100 percent uncontrolled, regardless of whether the site were otherwise in compliance with Rule 310.

Response: The Maricopa County Air Quality Department indicates the rule effectiveness is a term that describes a method to account for the reality that not all facilities covered by a rule are in compliance with the rule 100 percent of the time. A rule effectiveness study is an examination of a rule and its implementation. Rule effectiveness studies are field evaluation studies designed to determine the percentage of noncompliance among sources for the selected rule. A representative number of sources within the study group are chosen at random and inspected. The effectiveness of a rule is reflected in the noncompliance rates determined by dividing the number of noncomplying facilities by the number inspected.

An inspection is a snapshot in time and reflects conditions which may be present most of the time. In the rule effectiveness study, a site with an observed violation during the inspection was deemed noncompliant (significantly different from being characterized as 100 percent uncontrolled as asserted in commenter’s December 12, 2007 letter). Similarly, other sites in the rule effectiveness study with no observed violations were deemed to be 100 percent compliant, although violations may have occurred before or after the inspection. The rule effectiveness study was conducted in accordance with current EPA rule effectiveness guidance.

Comment: Additionally, the plan itself makes clear that the proposed control measures do not address the real problems. For example, the plan notes that the PM-10 Source Attribution and Deposition Study identified the sources in the Salt River area. They included: trackout; dragout from unpaved or poorly maintained paved roads or parking lots; unpaved shoulders; unpaved roads; open burning; agriculture; and vehicle activity on unpaved parking areas and vacant lots. Nonetheless, measures that might address unpaved roads and shoulders are only contingency measures.

Response: The MAG Five Percent Plan for PM-10 makes it clear that the fifty-three committed control measures address the real sources of the PM-10 problem. It appears that the commenter misunderstood the context of the MAG PM-10 Source Attribution and Deposition Study which was focused on two monitors in the Salt River Area. The sources around these two monitors are not the only sources in the 29 square mile modeling domain in the Salt River area or the entire nonattainment area.

The MAG Five Percent Plan for PM-10 includes twenty-two measures which reduce trackout onto paved roads. The plan includes measures which address all of the sources identified in MAG PM-10 Source Attribution and Deposition Study and the other sources of PM-10 in the nonattainment area. The fifty-three committed measures are described in Chapter Six of the plan.

In accordance with the Clean Air Act, the plan is required to include contingency measures in order for the plan to be approvable. The contingency measures in the MAG Five Percent Plan will be implemented along with the other measures in the plan. Per the EPA guidance, the impact of the contingency measures needs to be equivalent to one year of reasonable progress. The contingency measures are committed measures in the adopted plan which achieve emissions reductions beyond those measures relied upon to model attainment of the standard and demonstrate progress toward attainment. It is important to understand that the contingency measures will be implemented along with the other committed measures and the importance of meeting the Clean Air Act requirements which include contingency measures.

Comment: It is an unnecessary burden on our industry. This plan like every other one before it has failed. Once again, it relies virtually entirely on the reductions from the construction sectors to demonstrate emission reductions. These proposals will cost over \$11,000 per single family residential unit. It will not achieve clean air in part because the construction sector is not a significant contributor to the Salt River area.

Response: As described in the regional emissions inventory, construction emissions (residential, commercial, and road construction) comprise thirty-six percent of the 2005 PM-10 emissions inventory. Construction is being conducted throughout the PM-10 nonattainment area. Construction is a significant contributor around various monitors in the nonattainment area and within the 29 square mile modeling domain for the Salt River area. The plan includes fifty-three committed measures to reduce PM-10 from the aforementioned sources of PM-10, not just construction. As EPA has indicated consistently, the measures in the plan need to be applied to all similar sources in the nonattainment area to protect public health, not just around the monitors.

In order for any air quality plan to be successful, the measures need to be implemented, complied with and enforced. The rule effectiveness study conducted by Maricopa County Air Quality Department in 2006 on the regional fugitive dust control rules indicated a very low compliance rate. With the strengthened enforcement and training efforts underway by the County, perhaps compliance by all sources will increase and the plan will be successful.

Comment: We urge MAG to reconsider its current course and develop a targeted plan that addresses the real reason for our current nonattainment status and leads to attainment. At a minimum, this plan would include an accurate emissions inventory that would help identify relative emissions contributions and impose measures on significant sources such as unpaved roads, unpaved shoulders, and unpermitted facilities.

Response: As stated previously, the Maricopa County Air Quality Department has responded to comments on the emissions inventory, refined the 2005 emissions inventory, and is confident that EPA will approve the inventory. The MAG Five Percent Plan for PM-10 includes fifty-three committed measures applied to the sources of PM-10 emissions throughout the region. The plan

includes committed measures on unpaved roads, unpaved shoulders, and other unpermitted sources as well as the permitted sources. Chapter Six in the main plan document includes a list of the committed measures. In order for the plan to be effective, the measures must be implemented, complied with and enforced. The rule effectiveness study conducted by Maricopa County Air Quality Department in 2006 on the regional fugitive dust control rules indicated a very low compliance rate. With the strengthened enforcement and training efforts underway by the County, perhaps compliance by all sources will increase and the plan will be successful.

COMMENTS FROM THE U.S. ENVIRONMENTAL PROTECTION AGENCY (Letter from Colleen McKaughan dated December 12, 2007 by facsimile)

Comment: First of all, we would like to commend the Maricopa Association of Governments (MAG), Arizona Department of Environmental Quality (ADEQ), and Maricopa County Air Quality Department (MCAQD) on the extensive effort, resources and staff time that went into developing this plan. We would also like to commend the agencies for the resources that are being committed to implement the plan into the future. These resource commitments are essential for success in attaining the PM-10 standard in the Maricopa County nonattainment area.

Response: The Maricopa Association of Governments appreciates the comments. The resource commitments by the agencies are critical for attaining the PM-10 standard as expeditiously as practicable.

Comment: As you know, because MAG has chosen 2010 as the attainment deadline in the plan, the first clean year will need to be in 2008. It is important that the public understand that if a violation occurs before EPA acts on the plan, EPA will not be able to approve the plan. If EPA does disapprove the plan, such a disapproval would start sanctions and Federal Implementation Plan clocks. If EPA approves the plan and a violation occurs thereafter, MAG will need to revise the plan because the plan would have failed to ensure attainment of the standard.

Response: Your comments demonstrate the importance of implementing the measures in the MAG Five Percent Plan for PM-10. In order for any air quality plan to be successful, the measures need to be implemented, complied with and enforced. The best course of action is to attain the PM-10 standard as expeditiously as practicable.

Comment: While the plan appears to address the Clean Air Act requirements, based on our preliminary review, EPA is concerned about some of the assumptions made in the plan. EPA will need to go through a much more extensive review upon submittal of the plan by ADEQ.

Response: MAG will work cooperatively with EPA to discuss the basis for the assumptions made upon EPA's more extensive review of the plan.

Comment: We are concerned that the new and more stringent measures will not be in place early enough in the three-year period to prevent a violation from occurring. The draft plan assumes that the Maricopa County nonattainment area will have three clean years of data beginning in 2008. However, the new and more stringent measures that are included in the draft plan begin in 2008 and are only fully implemented by 2010. This means that the Maricopa County nonattainment area will

phase in the new and more stringent controls over a three-year period, and will enter 2008 with a control program similar to what exists today.

Response: Over the past year, the Maricopa County Air Quality Department has filled many of the vacant inspector positions and has been actively enforcing the fugitive dust control rules. In addition, the Revised MAG 1999 Serious Area Plan includes seventy-seven control measures designed to reduce PM-10. In order for the current plan or the new MAG 2007 Five Percent Plan for PM-10 to be effective, the measures must be implemented, complied with and enforced. The rule effectiveness study conducted by Maricopa County Air Quality Department in 2006 on the regional fugitive dust control rules indicated a very low compliance rate. With the strengthened enforcement and training efforts underway by the County, perhaps compliance by all sources will increase and the region will be successful in attaining the PM-10 standard.

It is important to note that some of the measures are complex and cannot be implemented rapidly. For example, it takes approximately eighteen to twenty-four months to pave an unpaved road. Other measures, however, will be implemented more quickly.

Comment: Another issue that we wanted to raise to your attention is the reliance on increased compliance to achieve the goals of the plan. In Figure ES-5, most of the emissions reductions for the committed measures rely on increased compliance with dust control requirements. The MCAQD is the primary entity responsible for achieving the higher level of compliance. Given the current difficulty of ensuring compliance with existing dust control requirements, achieving such a significant change in behavior by regulated industries seems optimistic.

Response: As indicated previously, in order for the plan to be successful, the measures must be implemented, complied with and enforced. With the strengthened enforcement and training efforts underway by the County, perhaps compliance by all sources will increase and the region will be successful in attaining the PM-10 standard. The modeling attainment demonstration for the six monitors illustrates the importance of good compliance.

Comment: Lastly, the cities have made commitments to adopt plans and ordinances that are intended to result in emissions reductions. These emissions reductions are relied on in this plan. In order to do a thorough review of the plan, we will need a summary table of the cities commitments that identifies exactly what the cities are committing to do, how and when they will accomplish the measure, and who will be enforcing the measure.

Response: The commitments made by each jurisdiction are contained in the two volumes of commitments for implementation documents. In addition, Chapter Six of the main plan document includes a summary of each jurisdiction's commitment to implement a measure underneath the appropriate measure. The technical support document also summarizes the commitments made by jurisdictions for the various measures. We hope that this will be helpful to you.

Comment: The PM-10 problem in the region is very complex, and it is apparent that the air quality agencies have been thoroughly investigating solutions to that problem. We will look forward to getting the formal submittal at the end of the month, and to working with MAG, ADEQ, and MCAQD during our formal review of the plan.

Response: The Maricopa Association of Governments will look forward to working with EPA and the air quality agencies as EPA proceeds through the formal plan review, the measures are implemented and the region progresses to attainment.

Lindy Bauer

From: Dianne Barker [dteam11@yahoo.com]
Sent: Tuesday, December 11, 2007 8:28 AM
To: Lindy Bauer; ktaft@mag.maricopa.gov
Subject: Citizen Testimony : PM -10 HEARING: 12/12/07

December 11, 2007

Attn: Ms. Lindy Bauer, MAG Asst' Ex Director, Air Quality Specialist
MS. Kelly Taft, Public Information Specialist

From : Dianne Barker, Citizen (Current Address of MAG Record)

Re: Draft MAG 2007 Five percent Plan for PM -10 for Maricopa County Non- Attainment Area.

Please read this testimony into the record if my other appointment delays my planned attendance tomorrow. Thank you .

I, Dianne Barker, a resident of the MAG area, Phoenix, AZ, participate in the reduction of particulates in this non-attainment area. I do this by "multi-modal" choice of transportation using the bike on the natural gas burning buses, walking and driving fuel efficient, lesser emission producing autos. I like the express "HOV" bus service for it's speed as we mostly pass stalled single occupancy vehicles on the way to work.

Realizing that that a greater amount of particulates in the MAG area (**See ES 3 Diagram of Subject referenced Draft**) comes from particulates, paved and unpaved roads, by ground transportation, I propose a fast, **elevated** train devoid of "paved" road particulates.

This train should be bi- fueled, state of the art solar-electric or-maglev. It should run from Fiesta Mall, I 60, around Broadway Curve to Deck Park, Phoenix and, further on Grand Avenue to Surprise. AZ.

Dianne Barker, US Citizen
Phoenix, AZ
dteam11@yahoo.com
(602) 999-4448

12/11/2007

**PINAL COUNTY DEPARTMENT OF DEVELOPMENT SERVICES
AIR QUALITY CONTROL DISTRICT
POST OFFICE BOX 987, FLORENCE, ARIZONA 85232**

**Donald P. Gabrielson
Director**

**Tel: (520) 866-6929
Fax: (520) 866-6967**



December 6, 2007

Lindy Bauer, Environmental Director
Maricopa Association of Governments
302 N. 1st Ave. Suite 300
Phoenix, AZ. 85003

Dear Lindy,

Thank you for the opportunity to review and comment on the Maricopa Association of Governments November 2007 draft "MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area". My comments are below. Please let me know if you have any questions.

Sincerely,

Scott DiBiase
Planning Manager

TSD Comments

1. In review of the spreadsheet provided by Cathy Arthur, the following item was found:
 - a. For measure 28 it appears that the 50% credit reduction for stabilizing (compared to paving) wasn't taken for the Apache Junction stabilization project.
2. Some of the 2005 EI totals in Table II-2 (pg. II-15) of the TSD (i.e. residential, commercial and road construction) don't match the MCAQD 2005 EI hand out from the 11/15/07 AQ planning team meeting. Perhaps the updated MCAQD 2005 EI numbers (especially the construction) should be incorporated into the TSD?
3. Page III-3 of the TSD – non-metallic mineral processing activities – 2005 Emission of 802 tons/yr. I'm not sure where that came from. Table 3.3-28 (pg. 59) of the MCAQD 2005 EI has non-metallic mineral processes annual PM10 emissions for the NAA of 430.89 tons/yr.
4. Page III-5 of TSD – the 2008 uncontrolled construction emissions (65,297) in the top table is different than the 2008 uncontrolled construction emissions in previous tables on pages III-2 & III-3. Why the difference?
5. Perhaps the clarity of the tables relating to miles of unpaved shoulders and roads and alleys to be paved or stabilized (pages III-11 and IV-8 of the TSD, Measure #28 table in the main plan, Chapter 7, pg. 7-6) can be addressed in the final document. In their current version the number of miles of paved or treated road, alley or shoulder seems a little misleading. For example, Maricopa County has committed to paving 13.6 miles of unpaved shoulders in 2007 and 5.5 miles per year after that. In the current version of the table on page III-11 it appears that Maricopa County is going to pave 19.1 miles of unpaved shoulders in 2008, 24.6 miles in 2009 and 30.1 miles in 2010. Perhaps an explanation can be added to the text or a descriptor to the title of the tables in question that explain the number of miles to be paved or stabilized by jurisdiction per year in the tables is cumulative.
6. Typo on page III-12 of the TSD. In the first sentence of the third paragraph the word "factor" is misspelled with the letter p instead of the letter o.
7. Page III-13 of the TSD – space missing between "of" and "15" in first sentence of third paragraph.
8. Page III-15 of the TSD. The table with the rule 310.01 compliance for measure #33, shouldn't the compliance rate be 75% as mentioned in the narrative above the table?
9. Page III-16. A space is needed between "of12" in the measure #35 paragraph.
10. Section V (Salt River Area Modeling) of the TSD – page 3. It appears that an extra line was added after only two words "experienced in" in the third paragraph. The sentence continues in the line below with "2006, the earliest attainment...".
11. Section 4: Inventory Development (pg. 35) – "ADEC" appears to be a typo in the "Emission Factors" section at the bottom of the page in the sentence "As with the MCAQD and ADEC emission inventories,".
12. Section 4: Inventory Development (pg. 42) – The 65 mph in the bow wake emission factor equation $(12.47 \text{ g/mi} \times \{35\text{mph}/65\text{mph}\})^2$ appears to be a typo. Perhaps it's supposed to be 60 mph?
13. Section 5: Air Quality Modeling, section 5.2 Source Configuration (pg. 57) – In the *Construction* paragraph the word "factory" may need to be changed to "factor" in the sentence "The information in these records was combined with emission **factory** and activity assumptions employed in the County's 2005 Emission Inventory Report....".
14. Section 5: Air Quality Modeling, section 5.2 Source Configuration (pg. 57) – In the High Wind paragraph there's a period (.) after the word alluvial where a comma (,) needs to be in the middle of the following sentence "For agriculture, alluvial. And unpaved parking lots, the emissions...".

15. Section 6: Control Measure Analysis, section 6.12 (pg. 96) – Local truck yard – travel emissions and section 6.13 – Local truck yard – windblown emissions. Perhaps both of the emissions reductions for these measures should be increased since the operations of the truck yard east of the Durango Complex monitor have ceased.
 - a. Perhaps the 2010 prediction of 8.95 ug/m³ for the local truck yard should be set to zero in Table 7-6 (pg. 112) since activities at the yard have ceased?
16. Section 6, table 6-7 (pg. 102) & Main Document Table 8-6 (pg. 8-48). Why is there a 50% Control measure reduction taken for windblown alluvial soil? The only place in the control measure analysis section of the TSD where windblown alluvial soils are mentioned is in a generic sentence on page 90 indicating that “...over 50% of the high wind day impacts were caused by windblown dust from alluvial areas, nearby disturbed soil areas, and regional background sources.”. I’m not sure how that can be considered a 50% control measure reduction. If there is a legitimate reason for a 50% control measure reduction for windblown alluvial soil then perhaps it should be included in the control measure analysis section.
17. Page 106, last paragraph. Perhaps going into detail for the tonnage reduction from windblown emissions in 2010 is necessary. A simple explanation of conversion of land use from agriculture to residential and commercial uses and paving of unpaved roads, shoulders, etc. would limit dust production in 2010 and be a sufficient explanation compared to “...are expected to be significant.”.

Main 5% PM₁₀ Plan

1. Chapter 3, pg. 3-5. Agriculture is mentioned to account for 7% of the 2005 annual PM₁₀ emission inventory. However in the pie chart it only accounts for 3%. Why the difference?
2. Chapter 3, pg. 3-7. Last paragraph. The word “in” in the following sentence in the last paragraph should be “an”, “There was also in increase in the number of exceedance days....”
3. Chapter 4, pg. 4-1. The word “and” should be included in the following sentence between the words “above” and “beyond” in the first paragraph, “The measures evaluated were new measures above beyond the measures in the prior PM-10 Plans”.
4. Chapter 4, pg. 4-41. The letter “d” needs to be added to the word need in the sentence in the paragraph at the top of the page.
5. Chapter 4, pg. 4-47. The total cost (inspection & enforcement) for conducting nighttime inspection (\$479.31) appears to be off a little. Assuming that amount is calculated by adding \$3.94+198.68+276.99 which equals \$479.61. This comment also pertains to Measure 23 on page 4-58.
6. Chapter 4, pg. 4-74. A space is needed between “9.29tons/road” in the first sentence at the top of the page.
7. Chapter 6, pg. 6-15. Perhaps the word “and” in the following sentence in the second paragraph should be “an”, “This is an administrative program that does not involve and Ordinance or Code”.
8. Chapter 6, pg. 6-24. Perhaps the word “side” in the following sentence in the first paragraph should be “site”, “....requiring control of PM-10 emissions from dust generating operations shall have on side at least one dust control coordinator...”.
9. Chapter 6, pgs. 6-28 & 6-141. Perhaps the word “contract” should be “contact” in the following sentence on both pages, “If no contract has been made, no control measures have been instituted, or stabilization has not been established...”.
10. Perhaps consistency with capitalization of “Control Officer” throughout the document is necessary?

11. In an effort to streamline the plan and minimize the amount of pages in the document, perhaps the following paragraph which is repeated 27 times in chapter 6 could be used once at the beginning of chapter 6 as an introduction to Part 1: Measures related to the suggested list.

The Maricopa County Board of Supervisors is authorized by A.R.S. § 49-479 to adopt rules for air pollution control and by A.R.S. § 49-480 to establish, administer and enforce a program for air quality permits. The Board adopted rules establishing an air quality permit program and pursuant to A.R.S. § 49-473, designated 'the Air Quality Department to issue permits and administer and enforce the permit program. By operation of A.R.S. § 49-471, the executive head of the department designated under A.R.S. § 49-473 serves as the Air Pollution Control Officer. The Air Pollution Control Officer is specifically authorized to take the enforcement actions set forth in A.R.S. §§ 49-502, 49-511, 49-512 and 49-513.

12. Chapter 6, pg. 6-30. It appears that the information related to commitment number 6 on page 6-30 is identical to measure number 3 on page 6-25. Perhaps the part related to Rule 316 can be removed from measure number 6 since the measure only relates to better tarping requirements in rule 310.
13. Chapter 6, pg. 6-50. Remove period between “and.Authority” in the following sentence, “implementing Agency and.Authority for Implementation are as follows:”.
14. Chapter 6, pg. 6-55. The word “owners” in the following sentence in the last paragraph of the page appears to be missing an apostrophe. “...any person to operate any motor vehicle on private property without the property owners written permission.”.
15. Chapter 6, pg. 6-56. The word “and” in the following sentence in the first paragraph of the page perhaps should be “an”, “The Town of Cave Creek has also adopted and ordinance that restricts....”.
16. Chapter 6, pg. 6-74. Perhaps the mention of Maricopa County in the CMAQ grant process in the City of Chandler paragraph should be MAG?
17. Chapter 6, pg. 6-77. In the Town of Gilbert section, first paragraph, it's mentioned that the Town has CMAQ funding available to purchase five PM-10 certified street sweepers over the next three years. Perhaps they meant the town has funding available over the next three years for local matching in case there are CMAQ funds available and they qualify and are approved for street sweepers in the CMAQ process?
18. Chapter 6, pg. 6-106. Perhaps the word “and” in the second paragraph of page 6-160 should be “an”, “...approximately 25 miles with and ADT of 50-150.”
19. Chapter 6, pg. 6-115. The link to Scottsdale (www.ScotsdaleAZ.gov) is incorrect. The correct link is www.scottsdaleaz.gov.
20. Chapter 8, pg. 8-30. Perhaps the word “Too” should be “To” in the following sentence, “Too offset some of these modeling deficiencies, MAG contractors...”.
21. Chapter 8, pgs. 8-62 & 8.64. Perhaps the 2010 background concentration for the Greenwood Area and West Phoenix should be 32.7 ug/m³ since there was a 20% reduction applied to the 2005 background concentration of 40.9 ug/m³? If so, the Peak 2010 PM-10 concentration for Greenwood and West Phoenix would be 147.8 ug/m³ and 152.7 ug/m³ respectively.

Lindy Bauer

From: michael j. hernandez [mjhernandez54@hotmail.com]

Sent: Tuesday, December 11, 2007 4:44 PM

To: Barbara Leff Sen.; Carolyn Allen Sen.; Christina MORGAN; Chuck Gray Sen.; Corinne PURTILL; Dianne BARKER; Howard Fischer; Jay TIBSHRAENY Sen.; Jonathan Paton Rep.; Judy Burges Rep.; Kyresten Sinema Rep.; Leah Landrum Taylor Sen.; Linda BENTLEY; Lindy Bauer; Martin Sepulveda USMC; Pam Gorman Sen.; Pat Shannahan Ombudsman; Peter Busch KPHO; Rich Crandall Rep.; Ron Gould Sen.; Russell Pearce Rep.; Sarah Fenske Phx New Times; Sean Noble; Stephen A. Owens; Tom Smith Sen.

Lindy,

Per the Subj Named Matter, I respectfully request to submit this Official Information to the M.A.G., regarding the Air Quality Meeting that is scheduled for Wed. 12 Dec. 2007, to suffice as my Correspondence/ Testimony; Official Public Transcript to both the A.D.E.Q. and the E.P.A. via the M.A.G. THANK YOU Kindly for your prompt and sincere interest regarding this significant matter.

Be Safe, Lindy, Always! Semper Fi. End of text. Michael J. Hernandez sends.

From: LINDABENT@aol.com

Date: Thu, 22 Mar 2007 17:06:52 -0400

Subject: Fwd: GAO Reports about Environmental Protection

To: mjhernandez54@hotmail.com

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Date: Thu, 22 Mar 2007 15:02:56 -0400

From: webmaster@GAO.GOV

Subject: GAO Reports about Environmental Protection

To: envprot-s@LISTSERV.GAO.GOV

March 22, 2007

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Highlights - <http://www.gao.gov/highlights/d07221high.pdf>

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12/11/2007



December 11, 2007

Re: Dust Abatement Issue and Five Percent Plan

Dear Lindy:

It was a pleasure speaking with you today and I appreciate your time.
I would like to have this letter submitted into record in regard to the above mentioned issues.

My husband and I own and operate Arizona's Desert Events, a company that for the past 11 years has offered Educational Nature Historical tours of the Sonoran Desert.
We operate these tours on State Trust land in the North Scottsdale area.

Many of the personnel at the AZ State Land Dept know me and can vouch for my commitment to caring for the land.
I have spent a lot of money on archeology surveys and spent many hours cleaning the trails.
I have been in the Desert Tour industry for over 20 years and it has been my life. I love what I do.
Our company offers tourists an opportunity to experience a part of Arizona history.
Our Native American and cowboy guides educate our visitors about plant life, wildlife and history.
We try to help them envision what life was like here over 100 years ago.

We would like to make it known that our tours travel at a speed of about 5 miles per hour while off road.
We are literally rolling through the desert pointing out wildlife and other items of interest.
During our four hour tour we only actually drive off-road for about 30 minutes (15 minutes in and 15 minutes out).
The majority of the tour is done on foot during our nature hikes.
We go plant by plant explaining how the Native Americans, Cavalry and other inhabitants used these plants to survive. We tell stories about the history of the area, the gems that are found in the surrounding mountains, our amazing and unique wildlife and the true history of our Native Americans.

The ground in this area is mostly granite and there is very little soft dirt.
We feel that our contribution to the dust issue is extremely insignificant.
Stopping us from operating will do nothing to help with the number of particulates in the air.
It would only cause great hardship to our family and be a huge injustice to the many visitors who come to our great state to be a part of the true Arizona that can only be experienced on our tours.

I hope that through this letter my voice will be heard and that the powers to be will realize that the service we offer our visitors has been a part of Arizona's appeal for over 30 years and keeping us out of the desert would do more harm to our state than good.

Thank you for the opportunity to share my views.

Sincerely
Doreen O'Connell



Maricopa County

Air Quality Department

Office of the Director
1001 North Central Avenue
Suite #500
Phoenix, Arizona 85004
602-506-6443 – desk
602-372-6440 – fax

December 12, 2007

Ms. Lindy Bauer
Environmental Director
Maricopa Association of Governments
302 N. First Ave. Suite 300
Phoenix, AZ 85003

Dear Ms. Bauer:

Thank you for the opportunity to review the Draft MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. We commend MAG on the extensive field and technical work that went into development of the Five Percent Plan. Our comments below pertain to the Main Plan document and the Technical Support Document (TSD).

Main Plan

Chapter Three - Assessment of Air Quality Conditions:

1. PM-10 Formation, pg. 3-1:
The formation of PM-10 is not dependent on the weather. The transport and dispersal, or lack thereof, of PM-10 is dependent upon weather conditions. Particulate matter is formed from anthropogenic or natural sources which either release aerosols and fine particles into the atmosphere or disturb the earth's crust allowing other factors (such as high winds or vehicular traffic) to disperse the particles. Weather conditions, such as stagnant air masses, severe temperature inversions, and high winds, exacerbate the problem; but the actual formation of the pollutant is still independent.
2. Air Quality Monitoring Data and Trend Analysis, pg. 3-8, Table 3-2:
The South Phoenix monitoring site switched to a continuous sampling schedule in July 2007. This should be noted in Table 3-2. Also, ADEQ no longer operates monitoring equipment at the West Phoenix site; therefore, in Table 3-2 for the West Phoenix site, MCAQD should be listed as the operating agency rather than MCAQD/ADEQ.

Chapter Seven - Demonstration of Annual Five Percent Reductions in PM-10 Emissions:

3. There are a number of discrepancies between figures cited in Chapter 7 of the Main Plan, and those used in Chapter III (Committed Measures) of the TSD, as follows:
 - (a) Chapter 7 indicates an increase in compliance rate for Measure 2 of 55 percent in 2009 and 56 percent in 2010 (p. 7-2). The TSD on pg. III-1 indicates 54 percent for 2009 and 55 percent in 2010. Based on the calculations, the percentages in Chapter 7 need to be corrected to match the TSD.
 - (b) Chapter 7 indicates an increase in compliance rate for Measure 3/16 for Rule 316 sources of 5 percent in 2009 and 7 percent in 2010. The TSD on pg. III-3 indicates a 6

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percent rise in 2009 and a 9 percent rise in 2010. Based on the calculations, the percentages in Chapter 7 need to be corrected to match the TSD.

(c) Chapter 7 indicates an increase of 5 percent in the compliance rate for unpaved parking lots in Measure 25 (pg. 7-5). The TSD indicates only a 1 percent increase for this measure (pg. III-9). Based on the calculations, Chapter 7 needs to be corrected to match the TSD.

Technical Support Document

Chapter II. Base Case PM-10 Emissions Inventories:

4. Pg. II-2, Industrial Processes: The value of 3,137 tons PM-10 used here should be corrected to 3,226 TPY, as indicated in Table II-1 on pg. II-15.
5. Pg. II-2, Agriculture: A table showing trends in harvest acreage used to derive the growth factors should be included in the TSD.
6. Pg. II-3, Construction: The acreage data for 2004–2006 listed in this section should be updated to reflect the latest quality-assured geocoded data from MCAQD. The correct acreages, and resultant growth rates, are shown below:

Revised acreage:	2004	2005	2006	2007	4-yr avg.	Growth rate (avg ÷ 2005)
Comm./Industrial	8,073	9,740	12,759	10,748	10,330	1.06
Residential	36,738	43,509	39,037	39,865	39,787	0.91
Road	2,685	4,199	4,642	3,885	3,853	0.92
Other land clearing	8,526	6,204	8,548	11,475	8,688	1.40
Total	56,021	63,652	64,986	65,973	62,658	

7. Pp. II-4 -5, Windblown Dust: The methodology used to estimate the base year windblown dust emissions is not well documented. We were unable to locate the reference to the documentation cited on pg. II-4 ("MAG, Windblown Dust Emission Calculations for PM-10 Nonattainment Area for the Years 2001 to 2005, July 31, 2007 [Appendix II]).
8. Pg. II-9, Reentrained Dust from Paved Roads: The reference to "Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Projects, August 15, 2005" should be Appendix II, Exhibit 2 rather than Exhibit 3.
9. Pg. II-10, Reentrained Dust from Paved Roads: Data on lane miles swept, ADT per lane, and sweeping frequency for each sweeper purchased in FY2001-2006 should be provided in the TSD to allow the reader to reproduce the methods used to calculate emission reductions.
10. Pg. II-13, 1st paragraph, Travel on Unpaved Roads: Why was 25 ADT (and not 50) used for lot splits (essentially halving the ITE trip rate of 10 trips per residential unit used for all other unpaved road emission calculations)?

Chapter III. Evaluation of Committed Control Measures:

11. Pg. III-2: Table, Rule 310 Compliance: It's unclear what the footnotes (1-3) on various items refer to.
12. Pg. III-3, the 2005 base case emissions for non-metallic mineral processing (NMMP) activities of 802 tpy is derived from earlier correspondence (emails from Bob Downing and Matt Poppen to Cathy Arthur, 7/17/07), rather than an explicit breakout in the 2005 Periodic Emissions Inventory (PEI). A summary table similar to that below would clarify the origin of this figure. In addition, the reductions resulting from Rule 316 compliance should be apportioned between stationary point sources and industrial processes.
- | | |
|--------------------------|---------------|
| NMMP point sources | 215.05 |
| Area sources: | |
| NMMP | 485.66 |
| ADEQ-permitted portables | 101.70 |
| Total | 802.41 |
13. Pg. III-5, the combined impact of Measures 30, 33, 8, 31, and 32 for vacant lots results in Rule 310.01 compliance rate above 80%.
14. Pg III-17, the references to Measures 43-45 (M43-45) should be changed to Measures 36-38.
15. Pg. III-5: All references to M37-40 should be changed to M30-33.
16. Pg. III-6: All reference to Measure #31 or M31 should be changed to Measure #25 or M25.
17. Construction Emissions:
On pp. III-3, III-7, and III-17, the figures for Construction Emissions after the application of various control measures (M3&16, M9/10/44, and M43-45, respectively) should be recalculated to reflect only 75% of the year's anticipated emission reductions, as these measures will not take effect until the end of the 1st quarter 2008 (as stated in the text).
18. Committed Measures #8 and #25 in reference to unpaved parking lots incorrectly apply compliance and control rates:
(a.) When emissions for this category were developed (see MCAQD 2005 PEI) the resulting emissions were uncontrolled. Therefore, it is inappropriate to use the Rule 310.01 compliance rate (68%) and a control rate (90%) to develop uncontrolled emissions as is done on pg. III-5 for measure # 8 and pp. III-9 and -10 for measure # 25. Consequently, some other means of attributing emissions reductions (other than an increase in the 310.01 compliance rate) needs to be developed for measure # 8 and applicable parts of measure # 25.

(b.) If compliance rate and control efficiency are to be applied, the 90% control efficiency for unpaved parking lots is too high. In the 1999 Revised Serious Area Particulate Plan for PM-10, MAG assumed an average control efficiency of 74.9% (50% control efficiency for gravel, 75% control efficiency for chemical stabilizers, and 99.7% control efficiency for paving).

19. Committed Measures #8, #30, #33 in reference to vacant lots may be incorrectly applying compliance and control rates:
(a.) It may be inaccurate to apply compliance and control rates for vacant lots as it appears that emissions for this category were developed without the use of compliance and control rates. The methodology described in pp. II-4 and -5 does not mention using compliance or control rates in deriving emissions. Further, the detailed windblown dust emission calculation documentation cited on pg. II-4 could not be located in the Five Percent Plan (See comment #7).

(b.) If compliance rate and control efficiency are to be applied, the 90% control efficiency rate for vacant lots is too high. In the 1999 Revised Serious Area Particulate Plan for PM-10, MAG assumed an average control efficiency of 88.6% assuming 70% control efficiency for gravel, 97% control efficiency for chemical stabilizers, and 99% control efficiency for mulch or vegetative cover.

20. Pg. III-12, 3rd paragraph, 1st sentence, "factor" is misspelled
21. Pg. III-11, Measure # 28 - Pave or stabilize unpaved shoulders:
The average weekday traffic on the roads with unpaved shoulders used to calculate emission reductions (for both the commitments and the SB1152 plans) should be provided in the TSD. Also, a sample equation showing how the benefit of paving/stabilizing unpaved shoulders was quantified would be helpful.
22. Pg. III-16 & 17: Documentation on how ADEQ calculated emission reductions for measures #35, #47, #48 needs to be included in the TSD.

Chapter IV. Evaluation of Contingency Measures

23. Pg. IV-1, the controlled PM-10 emissions for onroad exhaust, tire/brake wear are different from the emissions shown in Table III-2 on pg. III-21.
24. Pg. IV-7, Measure #26 - Pave or stabilize existing public dirt roads and alleys:
The average weekday traffic on the roads and alleys to be paved or stabilized should be provided in the TSD to allow the reader to reproduce the methods used to calculate emission reductions.
25. Pg. IV-8, Measure #26- Pave or stabilize existing public dirt roads and alleys:
In the table showing centerline miles of roads and alleys to be paved or stabilized, it appears the miles are cumulative miles paved/stabilized. If so, this should be noted.
26. Pg. IV-10, Measure #27 - Limit speeds to 15 mph on high traffic dirt roads:
How were emission reductions calculated for this measure? The only information provided is road miles by jurisdiction.
27. Pg. IV-10, Measure #28 - MAG Allocate Additional Five Million Dollars in FY 2007 Federal Funds for Paving Dirt Roads and Shoulders:
We were unable to reproduce the emission reductions shown in the table for the Glendale, Queen Creek (the 5.5 mile project), and Scottsdale paving projects based on the information provided in the TSD.

December 12, 2007
Ms. Lindy Bauer
Page 5

We appreciate the opportunity to review the Draft MAG 2007 Five Percent Plan. Please do not hesitate to contact Jo Crumbaker of my staff, if you need further details on the above comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Kard". The signature is fluid and cursive, with a large, stylized "K" and a long, sweeping underline.

Robert J. Kard
Director

cc: Colleen McKaughan, EPA
Beverly Chenausky, ADOT
Steve Peplau, ADEQ
Diane Arnst, ADEQ
Don Gabrielson, PCAQD
Scott DiBiase, PCAQD



CERTIFIED MAIL

December 12, 2007

Ms. Lindy Bauer
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, AZ 85003

**Re: *MAG 2007 Five Percent Plan for PM-10 for the Maricopa County
Nonattainment Area***

Dear Ms. Bauer:

Arizona Public Service ("APS") and Salt River Project Agricultural Improvement and Power District ("SRP") appreciate the efforts undertaken by the Maricopa Association of Governments ("MAG") to develop and propose to the Environmental Protection Agency ("EPA") a Five Percent Plan for PM10 for the Maricopa County Non-Attainment Area ("Five Percent Plan"). APS and SRP understand the consequences of not meeting EPA's deadline and of not showing compliance with the National Ambient Air Quality Standards (NAAQS), as well as EPA's requirement to reduce PM10 emissions by five percent each year for three consecutive years. APS and SRP have been actively involved in the public dialog on Senate Bill 1552, as well as in the development of proposed rules, such as the fugitive dust rules proposed by the Maricopa County Air Quality Department ("MCAQD"). We have participated in numerous public hearings and have submitted written comments that have hopefully provided some benefit to the development of the Five Percent Plan.

APS and SRP are concerned, however, that MAG is proposing to take credit in the Five Percent Plan for reductions attributable to MCAQD rules for which the rulemaking process has not yet been completed. MAG proposes to take credit for reductions attributable to proposed revisions to Rules 310 and 310.01, rules about which APS and SRP have expressed significant concerns. In particular, APS and SRP are concerned that MAG is taking credit for reductions attributable to Control Measure #38 – No Visible Emissions Across the Property Line, as described beginning on Page 6 of the attached document. MAG's proposed Five Percent Plan *assumes* that MCAQD will finalize the Rule 310 and 310.01 revisions as proposed. This assumption may restrict MCAQD's

ability to consider and respond to public comments and concerns, and effectively would predetermine the final rules without full consideration of public input.

In order to ensure that MAG understands the concerns expressed by APS and SRP on the rules proposed by MCAQD, we are attaching a copy of the comments to this letter and request that MAG take them into consideration before submitting the Five Percent Plan to EPA.

APS and SRP are interested in working together with you to address these concerns. If you have any questions, please contact Barbara Sprungl with SRP at (602) 236-5374 or Chris Walker with APS at (602) 250-3259.

Sincerely,

A handwritten signature in black ink that reads "Kevin Wanttaja". The signature is written in a cursive style with a large, stylized 'K' and 'W'.

Kevin Wanttaja, Manager
SRP Environmental Services

A handwritten signature in black ink that reads "Scott Davis". The signature is written in a cursive style with a large, stylized 'S' and 'D'.

Scott Davis, Director
Environmental Health & Safety



CERTIFIED MAIL

December 11, 2007

Ms. Johanna Kuspert
Maricopa County Air Quality Department
1001 North Central Avenue
Suite 400
Phoenix, AZ 85004

Re: *Maricopa County Five Percent Plan Rulemaking Project*
Comments on Proposed Revisions to Rules 200, 310, and 310.01

Dear Ms. Kuspert:

Arizona Public Service ("APS") and Salt River Project Agricultural Improvement and Power District ("SRP") appreciate the hard work put forth by the Maricopa County Air Quality Department ("MCAQD") and the difficult time constraints associated with developing and submitting a Five Percent Plan for PM₁₀ to the Environmental Protection Agency ("EPA") by December 31, 2007. APS and SRP understand the consequences of not meeting EPA's requirement to reduce PM₁₀ emissions by five percent each year for three consecutive years and not showing compliance with the National Ambient Air Quality Standards (NAAQS).

In an effort to assist the MCAQD, and to demonstrate APS's and SRP's commitment to bringing the metro Phoenix area back into attainment for PM₁₀, we are pleased to submit these formal comments regarding proposed changes to Rule 200 - Permit Requirements, Rule 310 - Fugitive Dust, and Rule 310.01 - Non-Traditional Sources of Fugitive Dust.

Rule 200: Permit Requirements

Section 301: Permits Required

APS and SRP recommend that the references to other sections made within this section be corrected from "Section 302 thru Section 305" to "Section 302 through Section 305 and Section 307".

Rule 310: Fugitive Dust from Dust Generating Operations

General Comment

As we have reiterated throughout the entire stakeholder process, both at meetings and in our informal comment letter, we are concerned about potential rule violations caused by trespassers. It would be extremely difficult, if not impossible, for a source to be aware of and to preclude illegal activities occurring on its property at all times. It would be unreasonable, therefore, to hold a source accountable for controlling fugitive dust emissions resulting from those illegal activities. It is particularly unreasonable to hold entities with significant holdings of undeveloped land to this standard since there is no practical means to entirely restrict access to such land at all times. If it is evident from the nature of the disturbance, or if the source can document that the violation was a result of trespassers, we believe that the MCAQD should issue a Notice of Opportunity to Correct and provide the source a reasonable period of time to correct the situation. The MCAQD should only issue a notice of violation if the source does not remedy the violation within the specified period of time. We encourage MCAQD to revise the rule accordingly.

APS and SRP also are concerned about fugitive dust regulations covered by rules other than Rule 310. For example, Rule 312 – Abrasive Blasting regulates particulate matter emission from abrasive blasting and includes an opacity limit with more stringent control measures than Rule 310. A source subject to Rule 312 should not have to meet the opacity conditions and control measures set forth in Rule 310. However, since blasting is included under the definition of earthmoving operation in Rule 310, the source would be regulated under Rule 310 in addition to Rule 312. This could result in multiple violations for the same non-compliant action. APS and SRP recommend that the MCAQD include a provision exempting from Rule 310 those activities that are subject to fugitive dust requirements under other rules.

Section 103.7: Exemptions

APS and SRP suggest this section be revised to accommodate the potential for trespassers, as follows:

An unpaved road is not a horse trail, hiking path, bicycle path, or other similar path for which the designated use is used exclusively for purposes other than travel by motor vehicles.

This change is necessary as the owner/operator of the path should not be held accountable for illegal activity beyond their control.

Section 202: Area Accessible to the Public

SRP and APS agree with the comments made regarding this definition in the letter from the Arizona Chamber of Commerce and Industry Air Quality Subcommittee to Ms.

Johanna Kuspert dated September 10, 2007. A copy of this letter has been attached for your convenience.

Section 209: Dust Generating Operation

APS and SRP are concerned that the proposed definition of dust generating operation is too broad and would have unintended consequences. The definition is not specific to activities that *actually* generate dust. Under the proposed definition, for example, *any* activity involving the “operation of any outdoor equipment” or the “operation of motorized machinery” at Title V sources would require a Dust Control Plan, even if the operation of such equipment or machinery is nowhere near an area in which fugitive dust could be generated. See §§ 209.9, 209.10 and 302.3. As another example, any “property owner” who “operates ... a dust generating operation” (which is defined to include things such as construction, operating outdoor equipment, and operating motorized machinery) is required to obtain a permit, regardless of where the activity occurs or whether dust is actually generated. Other examples where dust permits would be required include:

- Installation of a sprinkler system on a residential property if mechanized equipment is used to dig the necessary “trenches”;
- Operation of a lawnmower or weed trimmer; and
- Utilization of a playground with a sand-based floor.

These types of activities (and many others) should not be regulated under Rule 310, and the definition of “Dust Generation Operation” should be modified accordingly. As currently written, there is nothing in the Section 209 definition of “Dust Generating Operation,” or in the requirements set forth in Section 302, that restrict the obligation to obtain a permit to persons who actually generate dust. The language is far too broad and should be expressly limited to activities that actually generate dust.

We understand that the intent of this rule is to focus on those activities that are of primary concern with regards to the particulate matter non-attainment issues occurring in the county. We therefore encourage the MCAQD to restrict the requirements of Rule 310 to activities that actually generate dust. In addition, certain other minor activities should be encompassed within Rule 310.01, which does not require an air quality permit or dust control plan, but does require the use of control measures to reduce fugitive dust emissions.

Section 214: End of Work Day

APS and SRP suggest that the MCAQD provide a better definition of “end of work day”. As currently defined, it is ambiguous as to what is considered to be the end of the work day except that it must not be later than 8 pm.

Section 217: Gravel Pad

APS and SRP recommend that the proposed additional language for this definition be moved to Section 306, as this language pertains to operating requirements for the gravel pad.

Section 223: Open Storage Pile

In the definition of “open storage pile,” it is assumed the silt content of the storage pile is greater than 5 percent unless testing is conducted to show that it is less than 5 percent. It is unclear how often testing would be required to demonstrate that an open storage pile has a silt content of less than 5 percent. For example, if there is a storage pile of washed gravel at a site, which inherently has extremely minimal silt content, how often would it need to be tested? Furthermore, in this example, it is clearly not necessary to test to confirm that the silt content is less than 5 percent; this can be determined through visual observation alone.

Section 301: General Requirements for Dust Generating Operations

Including this section in the rule would unreasonably allow a source to receive multiple violations for what is actually (and legally) a single violation. For example, if visible fugitive dust emissions from a dust generating operation exceed 20 percent, a source could be cited as violating Sections 303.1.a and 301.1. MCAQD indicated in stakeholder meetings that this requirement was added to provide clarification regarding what actions would constitute a violation. If this is indeed the reasoning, it would make more sense to provide a guidance document that clarifies what constitutes a violation of the rule. This section could then be removed.

Section 302 - Permit Requirements for Dust Generating Operations

Section 302.1 and 302.2

APS and SRP recommend revising this section to refer specifically to Dust Control Permits and Dust Control Permit revisions only, rather than generic references to “permits” or “permit revisions.”

Section 302.3

This section is identical to Section 402.1.a and could lead to multiple violations for the same action. For this reason, we request that Section 402.1.a be deleted.

Also, as written this condition requires that a source that performs routine dust generation operation at a site that has obtained a Title V, Non-Title V, or General Permit must obtain a Dust Control Plan. This is problematic because routine is defined as “any dust generating operation which occurs more than 4 times per year or lasts 30 cumulative days

or more per year". It is possible that the temporary storage piles at our Service Centers that have a general permit for gasoline storage would have to get a dust control plan for routine dust generating activities at the facility when the dust generating activity (storage piles) is less than one tenth of an acre. It is our position that a Service Center that has temporary storage piles created more than 4 times a year and that is less than one tenth of an acre should not be required to obtain a dust control plan merely because it has a gasoline storage general permit.

APS and SRP request clarification on this matter and that this condition be modified to accommodate the example mentioned above.

Section 302.4

It is unclear who is responsible for obtaining the permit under this section. This is particularly true where, for example, there is an owner, a contractor, *and* a supervisor for a project. Is it the MCAQD's intent to require that *each* of these persons obtain a dust permit (i.e., three separate permits)? Is it the MCAQD's intent that only one of these persons must obtain the permit? If so, who? And who is liable under that permit? If the owner obtains a permit, and the contractor violates that permit, who is liable? MCAQD must clarify these important issues.

We suggest that the party who actually performs the work be required to obtain the permit and have liability under that permit. It would be inequitable to impose liability on a party who has no control over a project.

This section is also confusing due to the integrated definition of "Owner and/or Operator". APS and SRP request that the integrated definition of "Owner and/or Operator" be removed, and that MCAQD instead use the term itself in the section so that it reads as follows:

~~The property owner, lessee, developer, responsible official, Dust Control permit applicant (who may also be the responsible party contracting to do the work), general contractor, prime contractor, supervisor, management company, or any person who owns, leases, operates, controls, or supervises a dust generating operation subject to the requirements of this rule~~ *owner and/or operator* shall be responsible for obtaining a permit or permit revision, pursuant to Section 400 of this rule, from the Control Officer.

Section 302.5

APS and SRP recommend revising this section to refer specifically to Dust Control Permits, Dust Control Permit applications, and Dust Control Permit revisions, rather than generic references to "permits," "permit applications", or "permit revisions."

Section 303.1.b: Dust Generating Operation Opacity Limitation Requirement

APS and SRP have significant concerns regarding this condition. We support the Chamber of Commerce's September 10, 2007 comment that this condition, which prohibits visible emissions from crossing the property boundary line, is unconstitutional. We agree with the Chamber of Commerce that this condition should be removed.

As written, this requirement would be impossible to comply with in many instances. Even if a source is implementing the best available control measures as required in other portions of this rule, the potential exists for visible emissions to cross the property line if a dust generating operation is occurring near the property line and there is a gust of wind. A source could violate this requirement for reasons beyond its control and regardless of its best faith efforts to comply with the rule including compliance with every requirement to limit dust in the rule.

In addition, there is no indication that this requirement will result in any reduction in particulate matter emissions, since there is no credible link between opacity and particulate matter emissions. EPA itself has conceded that a "reliable and direct correlation between opacity and PM emissions cannot be established without significant site-specific simultaneous testing of both PM emissions and opacity ..." See 72 Fed. Reg. 18428, 18429 (April 12, 2007). MCAQD has indicated that the changes proposed in this rule are necessary to reduce particulate matter emissions in accordance with the particulate matter non-attainment area State Implementation Plan. However, it is clear that this condition will not achieve any creditable reductions.

At a minimum, MCAQD should answer the following questions related to this proposed condition:

- How will MCAQD determine what point marks the property line? It would be impossible for inspectors to know where that location is, without a fence to mark the property line. Only a survey can determine conclusively where the property line is located.
- How will MCAQD inspectors document the exact location where visible emissions were observed crossing the "property line," so that a source can refute the alleged violation if the visible emissions were not at the actual property line?
- How will MCAQD address this issue for line-type properties, such as unpaved roads? As written now, there is no flexibility afforded to these sources even if they are implementing the control measures required by this rule.

APS and SRP request that this provision be removed. If MCAQD continues to believe the provision must be included, APS and SRP submit that, at a minimum, the provision should be reworded. In addition to the issues described above, it is inappropriate for this section to refer to "particulate matter, including fugitive dust". Any requirements

contained in this rule should only pertain to fugitive dust, which is in keeping with the title and purpose of this rule. APS and SRP suggest the following revision:

The owner and/or operator of a dust generating operation shall not cause, suffer, or allow visible emissions of ~~particulate matter, including~~ fugitive dust, beyond the property line within which the emissions are generated. The owner and/or operator shall be exempt from this requirement if it can demonstrate that it is implementing best available control measures, as defined by Section 304 through 306 of this rule, and the source is in compliance with the opacity requirement in Section 303.1.a of this rule.

Section 303.2.a: Wind Event

APS and SRP suggest that MCAQD extend the affirmative defense option to the opacity limit described in Section 303.1.b, as well as the 20 percent opacity limitation. Also, MCAQD should clarify that a source is *not* required to submit an excess emissions report or permit deviation notification every time there is a wind event, if fugitive dust emissions exceed 20 percent opacity or if there are visible emissions across the property line. Such a notification would be impossible if the site is inactive during a wind event and no one is on site to make the proper assessment that such a submittal should be made.

Section 303.2.b: Emergency Maintenance of Flood Control Channels and Water Retention Basins

APS and SRP suggest that MCAQD revise this requirement so that it extends the affirmative defense option to the opacity limit described in Section 303.1.b, as well as the 20 percent opacity limitation.

Section 304.2.b: Unpaved Haul/Access Road

APS and SRP believe it is important that this section account for the possibility of trespassers on unpaved haul and access roads. The limit on vehicle trips and vehicle speeds should be for authorized traffic. It is critical that the owner/operator not be penalized for illegal trespassing that occurs on its site.

Section 304.3: Disturbed Surface Area

APS and SRP are concerned that MCAQD proposes to change the name of this section from "Open Area and Vacant Lot" to "Disturbed Surface Area" because the terms have significantly different meanings. MCAQD indicated during stakeholder meetings that this change was a result of a request from stakeholders to add more clarity. Unless more accurate terminology is used to provide additional clarity, MCAQD should revert to the previous terms (i.e., open area and vacant lot) and provide a definition of open area and vacant lot that is consistent with Rules 310, 310.01, and 200.

As written, there is confusion between this section and Section 305.11, because the stabilization requirements of 304.3 are not consistent with the control measures of 305.11. Section 304.3 allows a source to water the disturbed surface area on which no activity is occurring in order to form a soil crust in accordance with Appendix C. Once a soil crust is form and maintained, the source is in compliance with Section 304.3 of this rule. The control requirements of Section 305.11 require that, after the activity that caused the disturbed surface area is complete for a period of 30 days or longer, the source must implement one of the listed control measures within ten days. Creating a soil crust is not an identified control measure. APS and SRP request that “maintain a soil crust” be added to Section 305.11.c as a control measure.

Section 305.1.a.2: Off-Site Hauling and Section 305.3.b: Bulk Material Hauling/Transporting when On-Site Hauling/Transporting within the Boundaries of the Work Site and Crossing and/or Accessing a Paved Area Accessible to the Public

As currently written, this section requires that all loads be flat. This requirement will create unnecessary burden to “flatten” a load, without any air quality benefit. This section should be revised as follows:

Load all haul trucks such that at no time shall the highest point of the bulk material be higher than the ~~highest point at which the bulk material contacts the sides, front, and back of a~~ top of the cargo container area;

Section 305.6.e: Unpaved Staging Areas, Parking Areas, Material Storage Areas, and/or Access Routes

APS and SRP believe it is important that this section account for the possibility of trespassers on unpaved staging areas, parking areas, material storage areas, and access routes. The limit on vehicle trips and vehicle speeds should be for authorized traffic only and the rule should clearly state this. It is critical that the owner/operator not be penalized for illegal trespassing occurring on their site.

Section 305.7.e: Unpaved Haul/Access Roads

APS and SRP deem it important that this section account for the possibility of trespassers on unpaved staging areas, parking areas, material storage areas and access routes. The limit on vehicle trips and vehicle speeds should be for authorized traffic only, and the rule should clearly state this. It is critical that the owner/operator not be penalized for illegal trespassing that occurs on its site.

Section 305.9: Blasting Operations

See the second paragraph of our General Comments, above.

Section 305.10: Demolition Activities

There is no definition for “demolition activities.” This term should be defined.

Section 305.11.c: Disturbed Surface Areas

As currently worded, this requirement does not make sense. It appears that MCAQD is trying to cover two separate incidents: full completion of the dust generating operation and “temporary pauses” (an undefined term) in dust generating operations that extend beyond 30 days. These are two very different situations and should be treated separately within the rule. The types of control measures that should be allowed when stabilizing an area upon completion are different from those control measures that would be required during a “temporary pause”, due to the extent of time that the area needs to remain controlled.

In addition, as written, confusion exists between Section 304.3 and Section 305.11, because the stabilization requirements of 304.3 are not consistent with the control measures of 305.11. Section 304.3 allows a source to water the disturbed surface area on which no activity is occurring, in order to form a soil crust in accordance with Appendix C. Once a soil crust is formed and maintained, the source is in compliance with Section 304.3 of this rule. The control requirements of Section 305.11 require that, after the activity that caused the disturbed surface area is complete for a period of 30 days or longer, the source must implement one of the listed control measures within ten days. Creating a soil crust is not an identified control measure listed. APS and SRP request that “maintain a soil crust” be added to Section 305.11.c as a control measure.

APS and SRP also request that the timeframe to implement the control measure be extended to 40 days due to time delays resulting from specific city ordinances and city approval for the control measures listed.

Section 306.1.b Control Measures

MCAQD needs to clarify the scope of this requirement. This can be accomplished by rewording this section as follows:

For those work sites identified in Section 306.1.a, prevent trackout, carry-out, spillage, and/or erosion by implementing one of the following control measures:

Section 306.2.a.1: Criterion for Clean Up of Trackout

The proposed revisions include a 50 percent reduction in the amount of trackout allowed at a site. As such, MCAQD should provide a more reasonable amount of time to clean up trackout, carry-out, or spillage. In some cases, it is impossible to clean up an area immediately after the cumulative trackout extends more than 25 linear feet due to safety

issues, particularly if the trackout is on roads accessible to the public. It may not be possible to divert traffic while the trackout is being cleaned up. If traffic cannot be diverted, employees who are trying to clean up are at significant risk.

Furthermore, it was communicated in stakeholder meetings that the enforcement of the current trackout requirement is dependent on the inspector. Some inspectors provide a reasonable amount of time for cleanup, and some provide no leeway based on the requirement that it be cleaned up “immediately.” In order to ensure fair and equitable treatment of all sources, MCAQD should provide a specific amount of time in the rule for cleanup that is more reasonable than “immediately.”

Section 310.4: Dust Control Coordinator for Dust Generating Operations

This section is a duplicate requirement to Section 309.2.a and should be removed.

Section 401.2 – Dust Control Permit Requirements

The wording of this section creates uncertainty regarding what conditions are required to be included in an approvable Dust Control Plan. As it is written, it is possible to meet Sections 401.2a, b, c, and d, but still not receive approval for a Dust Control Plan. APS and SRP request that the language “but not limited to” be removed since it implies that there are requirements other than those in the rule.

Section 402.6: Dust Control Plan Requirements

This section is a duplicate requirement to Section 402.3.c.2 and should be removed.

Section 404.1.a: Dust Control Permit – Block Permit Requirements

The reference to “canal road grading” should be revised to “canal bank grading,” as this term more accurately describes the activity.

Section 404.1.b: Dust Control Permit – Block Permit Requirements

The reference to “canal road grading” should be revised to “canal bank grading,” as this term more accurately describes the activity.

Section 404.3: Dust Control Permit – Block Permit Requirements

The purpose of this requirement is unclear. A block permit is only valid for a period of 12 months. Therefore, if an activity does not commence within the 12 months after issuance of the block permit, the source would be required to obtain a block permit renewal, at which time this proposed activity could be reviewed.

Section 404.4: Dust Control Permit – Block Permit Requirements

APS and SRP are unclear as to the intent of this condition. We request clarification on why this requirement only applies to block permit holders. *All* individuals with dust control permits should be required to retain overall authority for dust control on their project, not just block permittees.

Section 409: Posting of Permits for Dust Generating Operations

We request this section be revised to state that posting is required only during active operations. If a site is not actively being worked, there may not be a location that is suitable to post a copy of the permit or dust control plan.

Section 410: Compliance Schedule

APS and SRP respectfully request that the MCAQD allow for a reasonable amount of time between the adoption date of this rule and the effectiveness date of this rule, such as 6 months. There has been substantial interest in this rulemaking process and, as a result, the MCAQD will likely receive a large number of comments that may impact the final version of this rule. Companies must receive time to train and update staff prior to the rule becoming effective. It is also important to note that the suggested timeframe coincides with the amount of time required to submit a minor permit revision for changes to the dust control plan required under Section 403.3 of Rule 310.

Section 502.1: Recordkeeping

APS and SRP are concerned with the recordkeeping requirements in this section. The language proposed in this section has been altered dramatically from the existing rule and requires the regulated community to invest a large amount of resources with only minimal environmental benefit.

The recordkeeping section of the current rule requires that inspections be performed and records be maintained when control measures are implemented. Examples of this would include control measures such as applying water, building three sided enclosures to control wind blown particulate, and covering dirt piles. However, the proposed language of Section 502.1 requires that self inspections be performed and records be maintained for each day dust generating operations are conducted. This presents a problem because the definition of dust generating operations is very broad (includes operation of any outdoor equipment and motorized machinery, as well as the use of staging areas, unpaved access roads, and parking areas). The proposed changes would require APS and SRP to perform daily inspections of over 300 substations for dust generating activities that have unchanging control measures (e.g., 15 mile per hour speed limit sign).

It is APS and SRP's position that self inspections and recordkeeping should only be required when dust control measures are being implemented. Therefore, we recommend that MCAQD revise Section 502.1 to read as follows:

Any person who conducts dust generating operations that require a Dust Control Plan shall keep a written record of self-inspection on each day control measures for dust generating operations are implemented. ~~conducted~~. Self-inspection records shall include daily inspections for crusted or damp soil, trackout conditions and clean-up measures, daily water usage and dust suppressant application. Such written record shall also include the following information:

Rule 310.01: Fugitive Dust from Non-Traditional Sources of Fugitive Dust

General Comment

As we have reiterated throughout the entire stakeholder process, both at meetings and in our informal comment letter, we are concerned about potential rule violations caused by trespassers. We believe it is unreasonable for MCAQD to expect a source to be aware of and to preclude illegal activities occurring on their property at all times, and to hold a source accountable for controlling fugitive dust emissions resulting from those illegal activities. A source should be provided an opportunity to demonstrate that the violation was a result of trespassers, and if it was, should be given a reasonable time frame to correct the situation without MCAQD issuing a notice of violation. Otherwise, the source is penalized for illegal activities outside its control.

Table of Contents - Section 104: Limited Exemptions

APS and SRP request that this section be removed from the Table of Contents since it does not exist in this rule revision.

Section 103.8: Exemptions

APS and SRP suggest that this section be revised to accommodate the potential for trespassers, as follows:

An unpaved roadway (including alleys) is not a horse trail, hiking path, bicycle path, or other similar path for which the designated use is used exclusively for purposes other than travel by motor vehicles.

This change is necessary, as the owner/operator of the trail or path should not be held accountable for illegal activity beyond its control.

Section 203: Area Accessible to the Public

The same comment provided under Rule 310, Section 202 applies here as well.

Section 214: Gravel Pad

The proposed language related to gravel pad design requirements (i.e., the last two sentences) should be moved to a more appropriate section of the draft rule, such as Section 302.6, as this language pertains to the requirements for trackout control.

Section 231: Unpaved Roadway (Including Alleys)

APS and SRP believe that all private and semi-private roads are sufficiently regulated under Maricopa County Rule 310. Therefore, we recommend that the term “Quasi-governmental” be removed from the definition of “Unpaved Roadway (Including Alleys).”

In addition, APS and SRP request that the MCAQD provide better clarification in the rule with regards to what is encompassed in “designated or opened trail systems and service roads”. As written, it is not clear what exactly would be considered an unpaved road under this definition.

Section 302.3: Control Measures for Non-Traditional Sources of Fugitive Dust

Including this section in the rule allows a source to receive multiple violations for what is actually (and legally) a single violation. For example, if a source does not implement the appropriate control measures for an unpaved parking lot, that source could be cited as violating Sections 302.6.b and 302.3. MCAQD indicated in stakeholder meetings that this requirement was added to provide clarification regarding what actions would constitute a violation. If this is indeed the reasoning, it would make more sense to provide a guidance document that clarifies what constitutes a violation of the rule. This section of the rule could then be removed.

Section 302.4.a: Visible Emissions Requirements

The same comment provided under Rule 310, Section 303.1.b applies here as well, with the following clarification. At a minimum, MCAQD should answer those same questions posed in our comments on Rule 310, Section 303.1.b. Even if MCAQD can provide satisfactory answers to those questions, the provision should be reworded. In addition, it is inappropriate for this section to refer to “particulate matter, including fugitive dust”. Any requirements contained in this rule should only pertain to fugitive dust, which is in keeping with the title and purpose of this rule. APS and SRP suggest the following revision:

The owner and/or operator of a non-traditional source of fugitive dust that involves vehicle use in open areas and vacant lots shall not cause or allow visible emissions of ~~particulate matter, including~~ fugitive dust, beyond the property line within which the emissions are generated. The owner and/or operator shall be exempt from this requirement if it can demonstrate that it is implementing best available control measures, as defined by Section 302.4.b of this rule.

Section 302.4.b.2: Control Measures

The opening paragraph of this section should be reworded as follows:

Prevent motor vehicle and/or off-road vehicle trespassing, parking, and/or access by posting ~~that consists of~~ one of the following:

Furthermore, APS and SRP request further clarification on how the items specified in paragraphs b, c, and d of this section would be used to prevent trespassing, parking, and access to restricted areas.

Section 302.4.c.6: Additional Requirements

APS and SRP recommend that this requirement be removed because this activity is already exempted under Section 103.5 of this rule.

Section 302.5: Open Areas and Vacant Lots

APS and SRP recommend that the wording of this section be revised because it implies that a source must meet all the requirements of Sections 302.5.b of this rule. The following revision is suggested:

The owner and/or operator of a non-traditional source of fugitive dust that involves open areas and vacant lots shall be subject to the visible emissions requirements described in Section 302.5(a) of this rule and, unless otherwise specified and/or required, shall comply with at least one of the control measures described in Section 302.5(b) of this rule and the additional requirements described in Section 302.5(c) of this rule.

Section 302.5.a: Visible Emissions Requirements

The same comment provided under Rule 310, Section 303.1.b applies here, with the following clarification. At a minimum, MCAQD should answer those same questions posed in our comments on Rule 310, Section 303.1.b. Even if MCAQD can provide satisfactory answers to those questions, the provision should be reworded. In addition, it is inappropriate for this section to refer to “particulate matter, including fugitive dust”. Any requirements contained in this rule should only pertain to fugitive dust, which is in

keeping with the title and purpose of this rule. APS and SRP suggest the following revision:

The owner and/or operator of a non-traditional source of fugitive dust that involves open areas and vacant lots shall not cause or allow visible emissions of ~~particulate matter, including fugitive dust,~~ beyond the property line within which the emissions are generated. The owner and/or operator shall be exempt from this requirement if it can demonstrate that it is implementing best available control measures, as defined by Section 302.5.b of this rule.

Section 302.6.a.1: Visible Emissions Requirements and Stabilization Requirements

The same comment provided under Rule 310, Section 303.1.b applies here, with the following clarification. At a minimum, MCAQD should answer those same questions posed in our comments on Rule 310, Section 303.1.b. Even if MCAQD can provide satisfactory answers to those questions, the provision should be reworded. In addition, it is inappropriate for this section to refer to “particulate matter, including fugitive dust”. Any requirements contained in this rule should only pertain to fugitive dust, which is in keeping with the title and purpose of this rule. APS and SRP suggest the following revision:

The owner and/or operator of a non-traditional source of fugitive dust that involves unpaved parking lots shall not cause or allow visible emissions of ~~particulate matter, including fugitive dust,~~ beyond the property line within which the emissions are generated. The owner and/or operator shall be exempt from this requirement if it can demonstrate that it is implementing best available control measures, as defined by Section 302.6.b of this rule.

Section 302.6.c.3: Additional Requirements

The same comment provided under Rule 310, Section 306.2.a.1 applies here.

Section 302.7: Unpaved Roadways (Including Alleys)

APS and SRP believe it is important that this section account for the possibility of trespassers on unpaved haul and access roads. The limit on vehicle trips and vehicle speeds should be for authorized traffic. It is critical that the owner/operator not be penalized for illegal trespassing that occurs on its site.

In addition, APS and SRP seek clarification on the terminology used in Section 302.7.c.2. This section requires that the “average vehicle counts/traffic counts on the highest trafficked days” be recorded and reported to the Control Officer. How is a company to choose which days would be the “highest trafficked days” and what are the repercussions if a day is found to have more traffic than what was recorded and reported?

Furthermore, please fix the section reference in Section 302.7.c.3.a so that it is "Section 501" rather than "Section 302.8(a)".

***Section 302.10: Easements, Rights-of-Way, and Access Roads for Utilities
(Transmission of Electricity, Natural Gas, Oil, Water, and Gas)***

APS and SRP believe it is important that this section account for the possibility of trespassers on easements, right-of-ways, and access roads for utilities. The limit on vehicle trips and vehicle speeds should be for authorized traffic. It is critical that the owner/operator not be penalized for illegal trespassing that occurs on its site.

Furthermore, APS and SRP request that the MCAQD revise this section so that it is consistent with the requirements for unpaved roadways (i.e., 150 vehicle trips or more per day in the PM10 nonattainment area). It is unclear why easements, rights-of-way, and access roads should have different requirements. By keeping the qualifiers consistent between unpaved roadways and easements, rights-of-way, and access roads, it will add clarity and eliminate confusion for sources affected by both sections.

Section 501.1.a: Opacity Observations

APS and SRP agree with the concerns regarding the legality of this change to the existing rule as stated in a letter from Mr. Roger Ferland, on behalf of the Business Coalition, to Mr. Robert Kard dated August 10, 2007. A copy of this letter has been attached for your convenience.

APS and SRP are interested in working together with you to address these concerns. If you have any questions, please contact Barbara Sprungl with SRP at (602) 236-5374 or Chris Walker with APS at (602) 250-3259.

Sincerely,



Kevin Wanttaja, Manager
SRP Environmental Services



Chris Walker, Manager
APS Environmental Affairs

Attachments



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August 10, 2007

Robert J. Kard, Director
Maricopa County Air Quality Department
1001 North Central Avenue, Suite 500
Phoenix, AZ 85004-1942

**Re: Business Coalition Objections to Increasing the Stringency of
Opacity Limits**

Dear Mr. Kard:

This letter is submitted by the undersigned on behalf of the Business Coalition. As you know from past correspondence, the Business Coalition consists of the Arizona Association of Industries, the Arizona Chamber of Commerce and the Greater Phoenix Chamber of Commerce as well as the County's two primary electric utilities. Our members have actively participated in the workshop process convened by your department to discuss the proposal that is the subject of this letter.

The workshop process to which I referred was convened generally to consider proposed changes to MCAQD Rules 200, 300, 310, 310.01 and 316 that have been presented as necessary to achieve the 5% annual reduction in PM₁₀ emissions required by the PM₁₀ Nonattainment Area and Maintenance Plans developed by the Maricopa Association of Governments. The Business Coalition, under separate cover, will be providing legal and technical comments on this regulatory proposal. However, in addition to the measures that were proposed to deal with PM₁₀, the regulatory proposal would also revise Appendix C, Section 3 to replace EPA Method 9 for determining visible emissions with EPA Method 203B. The data reduction procedures in EPA Method 203B are substantially different from those in EPA Method 9 and the net effect of substituting the latter method's data reduction procedures is to make the 20% opacity limit in the current rules substantially more stringent by changing the method for determining compliance with that limit.

Under EPA Method 9 the opacity is determined as the average of 24 consecutive observations, recorded at 15-second intervals. As such, the opacity determination is based on a 6-minutes average of 24 observations. In Method 203B, the number of observations above the applicable standard are counted and multiplied by 0.25 to determine the number of minutes a source is above the opacity standard. In essence, the Method 203B calculation methodology

eliminates the averaging effect of readings below the standard. The effect of this change in averaging methods, as far as regulatory stringency, is illustrated by the attached example, which compares the two data reduction methods as applied to exactly the same visible opacity observations. Obviously a data reduction method that results in noncompliance is more stringent than one that does not. This increased stringency of the opacity limit rule is multiplied by the fact that your department has proposed to expand the applicability of Appendix C to include determining compliance with opacity limits applicable to point source emissions.

Under the provisions of A.R.S. § 498-112.A, the County may only adopt rules that are more stringent than those adopted by the Arizona Department of Environmental Quality if all of the following conditions are met:

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition.
2. There is credible evidence that the rule, ordinance or other regulation is either:
 - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.
 - (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the county rule, ordinance or other regulation is equivalent to federal statutes or regulations.
3. Any fee or tax adopted under the rule, ordinance or other regulation will not exceed the reasonable costs of the county to issue and administer that permit or plan approval program.

The Arizona Department of Environmental Quality regulations pertaining to the measurement of visible emissions from nonpoint sources (A.A.C. R18-2-614) and point sources (A.A.C. R18-2-702.B) rely solely upon EPA Test Method 9 and not Method 203B to determine compliance with opacity limits. Thus, MCAQD's proposal to substitute Method 203B for Method 9 is subject to the above-cited requirements of A.R.S. § 49-112.A.

To date we have seen nothing to suggest the MCAQD intends to provide the evidence or can provide the evidence necessary to meet the statutory requirements.

It has been suggested that since the change in opacity test methods was bundled with a proposal for more stringent PM₁₀ regulations that the "peculiar local condition" referred to in the statute was somehow connected to PM₁₀. However, this cannot be the case. Visible emissions limits are intended to indicate the proper operation of particulate control technologies such as baghouse or dust suppression technologies. They are not intended to measure and cannot

Robert J. Kard
August 10, 2007
Page 3

measure PM10 emissions or the emissions of any other pollutant. For this reason, source category specific rules typically specify both an opacity limit and an emission limit. This point is illustrated by an analysis of visible emissions from specific industrial processes provided by your former colleagues at the San Joaquin Valley Unified Air Pollution Control District ("SJV UAPC"):

Some industrial processes, such as portland cement kilns, metallurgical refining, smelting, and melting operations, produce particulate matter predominately in the size range of visible light – 0.4 microns to 0.76 microns. A relatively low emission rate of such particles can exhibit a visible plume because of the light scattering properties of particles this size. A plume greater than 5% opacity is not indicative of either poor baghouse performance or high particulate matter emission rates from such sources.

S. Sadredin, *Visible Emissions From Operations Served by Baghouses*, SJV UAPC publication, September 16, 1998 at p. GPG 20-2 [emphasis added].

In sum, since there is no coincidence between PM₁₀ emissions and opacity, there is no reason to believe that a more stringent opacity limit, particularly one of the kind at issue here, would result in lower PM₁₀ (or any other) emissions.

As a result of the foregoing, our bottom line is simple. Either MCAQD must make the showings and provide the evidence required by statute (which we judge to be unlikely) or the proposal should be immediately withdrawn.

Thank you for your attention to this important issue.

Sincerely,



Roger K. Ferland

RKF:slm

cc: Members of the Business Coalition
Russell W. ("Rusty") Bowers & Steve Trussell, Arizona Rock Products Association
Spencer A. Kamps, Homebuilders Association of Central Arizona
Kevin S. Costello, Deputy County Attorney

Opacity Observation Record

Company: ABC Rock Products
 Location: Anytown, AZ
 Observer: County Compliance Officer

Facility: Plant 1
 Point of Emissions: Crusher
 Date: Today

Min	Hour	0	15	30	45	Attached	Detached	Comments
0	7:05 AM	5	0	10	5		x	
1	7:06 AM	0	0	5	5		x	
2	7:07 AM	5	0	0	5		x	
3	7:08 AM	15	20	25	25		x	
4	7:09 AM	20	25	20	25		x	
5	7:10 AM	20	30	25	20		x	
6	7:11 AM	10	5	25	15		x	
7	7:12 AM	5	5	0	0		x	
8	7:13 AM	5	0	0	0		x	
9	7:14 AM	10	10	5	20		x	
10	7:15 AM	25	25	35	20		x	
11	7:16 AM	25	20	20	15		x	
12	7:17 AM	15	25	30	10		x	
13	7:18 AM	0	5	5	0		x	
14	7:19 AM	0	0	0	0		x	
15	7:20 AM	5	0	5	0		x	
16	7:21 AM	0	5	5	5		x	
17	7:22 AM	10	5	0	5		x	
18	7:23 AM	5	0	0	10		x	
19	7:24 AM	15	15	15	20		x	
20	7:25 AM	20	20	15	20		x	
21	7:26 AM	10	10	25	15		x	
22	7:27 AM	5	0	5	0		x	
23	7:28 AM	5	5	0	0		x	
24	7:29 AM	0	0	0	0		x	
25	7:30 AM	5	5	5	0		x	
26	7:31 AM	0	10	10	5		x	
27	7:32 AM	5	15	25	20		x	
28	7:33 AM	25	15	20	25		x	
29	7:34 AM	10	5	0	5		x	

Existing Method 9 versus Proposed Method 203B

Method 9 Data Reduction				
Set Number	Time		Opacity	
	Start	End	Sum	Average
1	7:05 AM	7:10 AM	310	12.9%
2	7:11 AM	7:16 AM	300	12.5%
3	7:17 AM	7:22 AM	135	5.6%
4	7:23 AM	7:28 AM	235	9.8%
5	7:29 AM	7:34 AM	210	8.8%
Compliance Determination:			In Compliance	

Method 203B Data Reduction	
Count the number of observations above the target opacity. Multiply that number by 0.25 to determine the minutes of emissions above the target opacity.	
Number of observations >20% =	17
Multiplier =	0.25
Number of minutes above target opacity =	4.25
Allowable number of minutes above opacity limit =	3.0
Compliance determination:	
Not In Compliance	



September 10, 2007

VIA E-MAIL AND U.S. MAIL
jkuspert@mail.maricopa.gov

Ms. Johanna M. Kuspert
Environmental Planner
MARICOPA COUNTY AIR QUALITY DEPARTMENT
1001 N. Central Avenue, Suite 595
Phoenix, Arizona 85004

Re: **Arizona Chamber of Commerce and Industry Comments on Draft Rules 310 and 310.01**

Dear Johanna:

The Arizona Chamber of Commerce and Industry, Air Quality Subcommittee, offers the attached comments on the Maricopa County draft Rules 310 and 310.01 (8/29/07 versions).

We look forward to the Department's response, as well as to future discussions, as the Five Percent Reduction Rulemaking Project moves forward.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Stanton Curry".

J. Stanton Curry

A handwritten signature in cursive script, appearing to read "Richard W. Tobin, II".

Richard W. Tobin, II

Richard W. Tobin, II
Co-Chairs, Air Quality Subcommittee

Enclosure

cc: (w/encl.) (via e-mail)
R. Kard, Director
C. McKaughan, EPA

ARIZONA CHAMBER OF COMMERCE AND INDUSTRY
COMMENTS ON
MARICOPA COUNTY DRAFT AIR QUALITY RULE
September 10, 2007

The Arizona Chamber of Commerce and Industry, Air Quality Subcommittee, (the Chamber) appreciates the opportunity to comment on the Maricopa County Five Percent Plan Rulemaking Project for revisions to the State Implementation Plan (SIP). Chamber members have attended and participated in the various stakeholder meetings that have been conducted over the summer by the Maricopa County Air Quality Department (MCAQD).

These limited comments do not represent all of the issues that are of concern to Chamber members. Chambers members individually will continue to submit comments and participate in public meetings and hearings as they see fit. These comments raise some issues that are of general concern to Chamber members.

The issues set forth in these comments have not been addressed by the ongoing stakeholder process. The comments explain the Chamber's view that MCAQD is not proposing to regulate itself the same way it proposes to regulate other owners and operators of fugitive dust sources. This is fundamentally unfair and in some respects is legally impermissible.

As explained in more detail below, these comments object to four aspects of draft rules (August 29, 2007 draft):

- Draft Rule 310.01 would constitute an impermissible relaxation of the existing SIP rule that already requires the control of fugitive dust from County-owned unpaved roads.
- Draft Rule 310 would regulate business-owned unpaved roads more stringently than draft Rule 310.01 would regulate County-owned unpaved roads without justification.
- The prohibition of any visible emissions beyond the property line is unconstitutional.
- The term "area accessible to the public" in Rule 310 and draft Rule 310.01 needlessly will cause confusion and controversy because of its similarity to important regulatory terminology used in the stationary source permitting program.

1. *Draft Rule 310.01, § 302.7 is an Unauthorized SIP Relaxation for County-Owned Unpaved Roads*

MCAQD's draft Rule 310.01 would relax the regulation of fugitive dust emissions from County-owned unpaved roads, compared to the current air quality requirements for County-owned unpaved roads (Rule 310.01, § 304) that have been in effect for several years and already are part of the State Implementation Plan (SIP). This unusual proposal to reduce the existing level of fugitive dust regulation for County-owned property stands in contrast to MCAQD's efforts to increase the regulation of almost every other type of activity that emits fugitive dust within Maricopa County. The draft rule provisions that relax the SIP provisions that apply to County-owned unpaved roads are summarized in the following table.

No. of vehicle trips/day on an unpaved road that triggers applicability of rule	150 vehicle trips per day (§ 304)	130 vehicle trips per day (§ 302.7)	Viewed in isolation, this provision is modestly more stringent. However, when the totality of all changes in draft § 302.7 are considered, there is no basis for concluding that this modest change offsets the significant relaxations made elsewhere in the draft rule (e.g., (a) the new exclusion discussed in the "Complete Exclusion" section below, (b) the reduction of the regulated geographic area to only Area A, and (c) the delayed and incremental compliance schedule, both discussed in the "Control Measures Standard" section below).
Complete exclusion from regulation (i.e., exclusion from opacity, stabilization and control measure standards for unpaved roads)	No such exclusion (§ 304)	Complete exclusion for "unpaved roadways (including alleys) that have significant engineering deficits, drainage deficits, and/or structural deficits." (§ 302.7.c.4)	This is a significant SIP relaxation.
Opacity standard for fugitive dust	Do not exceed 20% opacity (§ 304.2)	Do not exceed 20% opacity (§ 302.7.a)	No change.
Stabilization standard	Must comply with one: silt loading test or silt content test (§ 304.2)	Must comply with one: silt loading test or silt content test (§ 302.7.a)	No change.
Control measure standard ¹	Must comply with at least one to meet "effective control" criteria: pave, apply dust suppressant, or apply and maintain a gravel surface (§§ 304, 304.1)	Essentially the same list of control measures; however, (a) the control measures are limited only to roads located in Area A (rather than throughout the County nonattainment area) and (b) compliance may be phased in over many years in increments of 5 miles/year (rather than implemented now). (§§ 307, 307.a)	This is a significant SIP relaxation. The current rule applies to unpaved roads throughout most of Maricopa County; in contrast, the draft rule would reduce the regulated geographic area to Area A, which is a significant reduction. The current SIP rule has been in effect for several years and the County is supposed to already be in compliance with the control measures; in contrast, the draft rule provides a delayed compliance schedule that allows compliance with § 302.7 to be slowly phased-in incrementally over many years into the future.
Stabilization monitoring	Use Appendix C methods for unpaved roads (§ 501.1)	Use Appendix C methods for unpaved roads (§ 501.2)	No change.
Recordkeeping	Make and keep records for 1 year (§§ 502, 503)	Make and keep records for 1 year (§§ 502, 503)	No change.

¹ Due to awkward drafting, the control measure standard could be misunderstood to require all three control measures for all regulated roads. The new rule should clarify that at least one measure is required, but not the others, unless needed to meet the "effective control" criteria.

The changes proposed in the draft rule would be an impermissible relaxation of the SIP. Moreover, the concept of decreasing regulation of County-owned sources of fugitive dust while increasing the regulation of so many other categories of emitters is inequitable.

2. *MCAQD has not Justified Differences in Dust Control Requirements for County-Owned Unpaved Roads Compared to Dust Control Requirements for Business-Owned Unpaved Roads*

In the draft rules, County-owned unpaved roads have fewer and less strict dust control requirements than do business-owned unpaved roads. This disparity is illustrated in the following table.

DUST CONTROL REQUIREMENTS FOR UNPAVED ROADS		
Business-Owned Unpaved Roads (302.7.a)		
County-Owned Unpaved Roads (302.7.b)		
Dust permit and plan for disturbed surface ≥ 0.10 acre	Yes (§ 302)	No
20% opacity standard for on-site fugitive dust emissions	Yes (§§ 303.1.a, 304.2.a)	Yes (§ 302.7.a)
No visible fugitive dust emissions beyond property line standard	Yes (§ 303.1.b)	No
Stabilization standard (must comply with one: silt loading test, silt content test, or limit trips to 20/day and speed to 15 mph)	Yes (§ 304.2)	Yes, must comply with silt loading test or silt content test. (§ 302.7.a)
Control measure standard (must comply with at least one: water until visibly moist, pave, apply and maintain gravel, recycled asphalt or other suitable surface material; use dust suppressant other than water; or limit trips to 20/day and speed to 15 mph)	Yes (§ 305.7)	Yes, but only for roads in Area A used by ≥ 130 vehicles per day and may be phased-in in increments of 5 miles/year. ¹ (§ 302.7)
Complete exclusion for unpaved roads with significant engineering, drainage and/or structural defects	No	Yes (§ 302.7.c.4)
Post sign with complaint line information for sites ≥ 5 acres	Yes (§ 308)	No
Dust control training class every 3 years for certain personnel at site with disturbed area ≥ 1 acre	Yes (§ 309)	No
Dust Control Coordinator on-site for permitted sites with disturbed area ≥ 5 acres	Yes (§ 310)	No
Opacity monitoring—use Appendix C test method for unpaved roads	Yes (§ 501.1.c)	Yes (§ 501.1.b)
Stabilization monitoring—use Appendix C test methods for unpaved roads	Yes (§ 501.2.b)	Yes, but only for roads used by ≥ 130 vehicles per day. (§§ 302.7.c.3, 501.2)
Make and keep compliance records	Yes; keep for ≥ 2 years. (§§ 502, 503)	Yes; keep for 1 year. (§§ 502, 503)

¹ Control options are limited to paving, using a dust suppressant other than water, or applying and maintaining a gravel surface. Due to awkward drafting, the control measure standard could be misunderstood to require all three control measures for all regulated roads. The new rule should clarify that at least one measure is required, but not the others, unless needed to meet the “effective control” criteria.

In response to a question at the July 19, 2007 public meeting on the draft rules, MCAQD offered three reasons why it claims the disparity is justified. MCAQD's three reasons are summarized below (with the Chamber's comments in parentheses):

- MCAQD claims that total costs for additional dust controls for County-owned roads would be much higher than the new dust control costs for any business category. (MCAQD has not demonstrated that this claim is factually correct. For example, what portion of these costs already is required under current Rule 310.01, § 304? Even if MCAQD's claim is correct, are higher costs justified because the County's unpaved roads are a larger source of dust than most business categories and/or because the County's unpaved roads have been less regulated in the past than most business source categories?).
- MCAQD claims that the County does not have the same degree of control over County-owned roads that a business has over business-owned roads. (MCAQD has not demonstrated that this claim is legally correct. In fact, current Rule 310.01, § 304 already requires the County to stabilize County-owned unpaved roads in certain cases. There is no apparent legal reason why the County does not have the ability to stabilize an unpaved road that the County owns.)
- MCAQD claims that adjacent landowners might have the ability to stop a road paving project. (MCAQD had not demonstrated that this claim is legally correct. There is no apparent legal reason why the County does not have the ability to stabilize an unpaved road that the County owns. If this were a real legal problem, wouldn't it also be an equally serious problem for a business that must stabilize its unpaved road adjacent to other landowners?)

If MCAQD intends to impose increased obligations on the business sector, including requirements for business-owned unpaved roads that are more stringent than the requirements for County-owned unpaved roads, then MCAQD should clearly justify that disparity. Given the significant amount of the PM-10 problem attributed to fugitive dust from unpaved roads and shoulders—regardless of who owns them—MCAQD should provide the public with a detailed explanation for its position that its unpaved roads should be subject to less stringent controls than business-owned unpaved roads. In the absence of a convincing demonstration, common sense and fairness should compel the County to adopt comparable regulations for County-owned sources and business-owned sources of dust emissions. The Chamber requests MCAQD to provide the public with a detailed explanation of its position, including supporting legal and cost analysis, if MCAQD continues to advocate less stringent controls for unpaved roads owned by the County than for unpaved roads owned by businesses.

3. *The Proposed Property Line Standard in Draft Rule 310, § 303.1.b is Unconstitutional as Drafted*

The referenced provision reads: "The owner and/or operator of a dust generating operation shall not cause or allow visible fugitive dust emissions to remain visible in the atmosphere beyond the property line." At least two other jurisdictions have concluded that absolute prohibitions against visible emissions crossing a property line are unconstitutional. In *Ross Neely Exp. v. ADE*, the Alabama Supreme Court held that a state rule prohibiting visible emissions from crossing a property line:

is clearly overbroad, encompassing every situation in which visible fugitive dust emissions move across a lot line, without regard to damage, injury, or inconvenience caused, reasonable attempts at control, etc. This invades the area of protected freedom, severely restricting the use of property, and creates a situation where discriminatory enforcement is almost inevitable.

437 So.2d 82, 85 (Ala. 1983); *see also*, *CF & U v. CAPCC*, 640 P.2d 238 (Colo. App. 1981) (holding that property boundary standard “contravenes fundamental due process rights”). The Chamber respectfully requests this subsection be removed from the draft rule.

4. *The Definition of “Area Accessible to the Public” is Problematic*

Current Rule 310 and draft Rule 310.01 include the term, “area accessible to the public” (defined as, “Any parking lot or public roadway that is accessible to public travel primarily for purposes unrelated to the dust generating operation”). Rule 310, § 201; Draft Rule 310.01, § 203. This term creates confusion because the new term sounds like it is related to the definition elsewhere in the County rules for “ambient air” (*i.e.*, “That portion of the atmosphere, external to buildings, to which the general public has access.”) *See* Rule 100, § 200.13. The “ambient air” definition serves important but unrelated purposes under unrelated parts of the air program, including stationary source permitting.

In response to a question at the July 19, 2007 public meeting, MCAQD explained that the term “area accessible to the public” is used for a unique purpose concerning trackout controls. Moreover, the definitions section in Rule 310 begins with this restrictive phrase, “For the purpose of this rule, the following definitions shall apply.” Thus, it appears that MCAQD correctly does not intend that this term and its definition have any effect on the unrelated definition or interpretation of “ambient air” in Rule 100, § 200.13.

In order to avoid future confusion or controversy, the Chamber requests that MCAQD formally state that the term “area accessible to the public” and its definition in Rules 310 and 310.01 do not have an effect on the definition or interpretation of “ambient air” in Rule 100, § 200.13. However, it would be preferable to use a term other than “area accessible to the public” in Rules 310 and 310.10. For example, either “paved public parking/travel area” or “public parking/travel area” would be a good, non-controversial substitute for “area accessible to the public.” This change also would avoid the circularity and the lack of clarity caused by using “accessible” in both the term being defined and in its definition.

The Chamber thanks MCAQD for the stakeholder process and this opportunity to comment on the draft rules.

Lindy Bauer

From: Sprungl Barbara J [Barbara.Sprungl@srpnet.com]
Sent: Wednesday, December 12, 2007 4:25 PM
To: Lindy Bauer
Cc: Wanttaja Kevin G; Casiraro Daniel J (Dan); Ramaley Karilee S; Leal Margot (Meg); Scott.Davis@aps.com; RChris.Walker@aps.com; Ann.Becker@pinnaclewest.com; Mark.Hajduk@aps.com
Subject: MAG 2007 Five Percent Plan for PM-10
Attachments: Final MAG Five Percent Plan Comment Letter.pdf

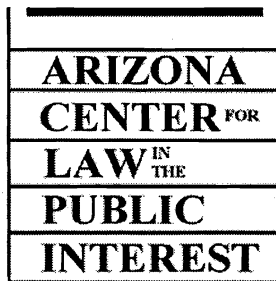
Lindy,

Please find attached a joint comment letter from APS and SRP that is being filed regarding the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. A faxed copy of these comments also will be forwarded to you. Please send back an email confirming your receipt of these comments.

Sincerely,

*Barbara Sprungl, Senior Environmental Engineer
Salt River Project
P.O. Box 52025, PAB352
Phoenix, AZ 85072-2025
(602) 236-5374*

<<Final MAG Five Percent Plan Comment Letter.pdf>>



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JOY E. HERR-CARDILLO
STAFF ATTORNEY

December 12, 2007

VIA ELECTRONIC MAIL
Lindy Bauer, MAG (602) 254-6300
302 N. 1st Avenue, Suite 300
Phoenix, AZ 85003

RE: Draft MAG 2007 Five Percent Plan for PM-10 for
the Maricopa County Nonattainment Area

Dear Ms. Bauer:

Thank you for the opportunity to comment on the proposed State Implementation Plan revision ("5% Plan") referenced above. We provide the following comments.

Particulate pollution has been a serious problem in the Valley for the past two decades. Since they were first adopted, the Phoenix metropolitan area has never attained the PM-10 standards and has a long history of proposing inadequate plans to address the problem. Now, having once again failed to meet its attainment deadline, the state is required under Section 189(d) of the Clean Air Act (CAA) to submit "plan revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared for such area." 42 U.S.C. §7513(a)(d). In addition to the attainment demonstration and 5 percent requirements, the plans under section 189(d) must address all applicable requirements of the CAA. As the following explains, we do not believe the 5% plan satisfies those requirements.

1. BACM, RACM and MSM.

As a serious nonattainment area for PM10, the Phoenix area plan must include BACM for all significant sources of PM10 and PM10 precursors. BACM, best available control measures, are the maximum degree of emissions reductions possible after considering technical and economic feasibility and environmental impacts of the control. These must be implemented independent of attainment requirements. Also, because Phoenix obtained a five year extension of its attainment deadline, its plan must include MSM (most stringent measures). In the General

December 12, 2007

Preamble (59 FR 41998), EPA sets forth a multi-step process for identifying BACM/BACT for serious areas. The proposed 5% plan does not include a BACM or MSM demonstration that follows this process, therefore, it is initially difficult to even determine whether the plan satisfies the BACM/MSM requirement. The state cannot rely upon the BACM/MSM demonstrations in the 1999 Serious Area SIP, as that demonstration was prepared almost ten years ago, and is now significantly outdated. Therefore, an updated BACM/MSM analysis should be included in the 5% plan. Moreover, as EPA pointed out in comments to Maricopa County last July, 2007, the County's Rule 316 as adopted on June 8, 2005 does not satisfy the BACM/MSM requirement. See July 9, 2007 letter to Jo Crumbaker (Maricopa County) and Nancy Wrona (ADEQ) from Andrew Steckel (EPA). The rule does not represent the Best Available Control Technology and should be revised to address all of the EPA's comments. Another control measure included in other plans but not addressed in the 5% plan is CARB diesel.

2. Attainment Demonstration and the Annual Standard.

We realize that the annual standard has been revoked by EPA, however, because the Phoenix area failed to attain the standard by the December 2006 deadline, we believe that it is required under the Clean Air Act to demonstrate attainment of both the annual and 24 hour standards in the 5% reduction plan. See *South Coast Air Quality Management District v. EPA*, 472 F.3d 882, 900 (D. C. Cir. 2006) ("The Act placed states onto a one-way street whose only outlet is attainment.").

3. Contingency Measures.

Once again, the state has failed to include true contingency measures in its plan, and instead, attempts to satisfy this requirement of the Act by designating implemented control measures as "contingency measures" by not including the emissions reductions from those measures in the attainment demonstration. As we have explained before, we believe that this exercise defeats the entire purpose of requiring contingency measures. The purpose of contingency provisions is to assure that the state will act promptly to protect the public health if a milestone for reasonable further progress is not met. Obviously, if the so called "contingency measures" are already being implemented when a milestone is missed, there is nothing to suggest that their continued implementation would ensure that the situation will be corrected. Rather, the Act clearly envisions additional measures which are automatically and immediately implemented if and when the milestone is missed. If and when a milestone is missed, the fact that the state did not rely upon some of the implemented measures in its attainment demonstration is meaningless. If the state fails to achieve reasonable further progress, protection of the public health is paramount and the Clean Air Act contemplates and requires an immediate response that does not require additional EPA or state action.

4. Indirect Source Rule.

Finally, we are disappointed that the state did not even consider adopting an indirect source review program like that implemented in San Joaquin Valley. In the San Joaquin Valley, they have established an indirect source review program in order to reduce emissions of NOx

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and PM10 from new development projects. There, like here, new development contributes to the air-pollution problems by increasing both the number of vehicles and the vehicle miles traveled. The advantage of including the indirect source review is that it addresses future sources of pollution and therefore, allows the state to address both the immediate impacts of construction (i.e. Rule 310) and the longer term impacts on air quality once the construction is complete.

Sincerely,

A handwritten signature in black ink, appearing to read "Joy E. Herr-Cardillo". The signature is fluid and cursive, with a large initial "J" and "H".

Joy E. Herr-Cardillo
Staff Attorney

With respect to the emissions inventory, we incorporate by reference our earlier comments submitted to MCAQD. See Attachment A. Fundamentally, MCAQD's methodology is flawed. For example, under its methodology, a 500 acre site with a cumulative total of 51 feet of trackout from the site's various exits would be deemed 100% uncontrolled, regardless of whether the site were otherwise in compliance with Rule 310. As a result, the emissions inventory is not a "comprehensive, accurate, current inventory of actual emissions" as required by Section 172(c)(3) of the CAA.

With respect to the Plan's failure to incorporate targeted measures to reduce emission, we incorporate by reference HBACA's comments to MCAQD concerning Rule 310. See Attachment B.

Additionally, the Plan itself makes clear that the proposed control measures do not address the real problems. For example, the Plan notes that the PM-10 Source Attribution and Deposition Study identified the sources in the Salt River area.

They included: trackout; dragout from unpaved or poorly maintained paved roads or parking lots; unpaved shoulders; unpaved roads; open burning; agriculture; and vehicle activity on unpaved parking areas and vacant lots.

Pg. ES-5. Nonetheless, measures that might address unpaved roads and shoulders are only contingency measures. See pg ES-9. The Plan does not require trackout control devices under Rule 310.01, even as a contingency measure. Given these failures, it is not surprising that the Plan acknowledges that the relative contribution of roads and unpermitted source trackout will increase from 34% to 45% in the next three years. See pgs ES-7 and ES-12. Increasing the relative contribution of sources that are the current causes of our problem is not the way to attainment.

Rather than imposing controls on the sources that are causing the nonattainment problems, this Plan, like every other one before it that has failed, once again relies virtually entirely on reductions from the construction sector to demonstrate emission reductions. See pg ES-8.

These proposals will cost over \$11,000 per single family residential unit, but will not achieve clean air, in part because the construction sector is not a significant contributor in the Salt River Area. Further, because the emission inventory overestimates construction emissions, these claimed reductions will be found on paper only, and the monitors in the Salt River Area will continue to record exceedances.

We urge MAG to reconsider its current course and develop a targeted plan that addresses the real reasons for our current nonattainment status and leads to attainment. At a minimum, this plan would include an accurate emissions inventory that would help identify relative emission contribution and impose measures on significant sources such as unpaved roads, unpaved shoulders, and unpermitted facilities.

Sincerely,



Albert H. Acken

AA/bam
Enclosures

RECEIVED

FEB 22 2007

MCAQD
AIR QUALITY DEPARTMENT
ADMINISTRATION



February 22, 2007

Maricopa County Air Quality Department
Emissions Inventory Unit
1001 North Central Avenue
Suite 595
Phoenix AZ 85004

Re: Home Builders and AGC Comments to the 2005 Periodic Emissions Inventory for
PM-10, Public Review Draft

Dear Sir or Madam:

The Home Builders Association of Central Arizona (Home Builders) and the Arizona Chapter of The Associated General Contractors (AGC) respectfully submit these comments concerning the 2005 Periodic Emissions Inventory for PM-10, Public Review Draft, January 23, 2007 (Draft Emissions Inventory).

Home Builders is a non-profit corporation organized in 1951 and incorporated under the laws of the State of Arizona to serve the interests of its members in the residential construction and development industry. Home Builders currently has over 900 members, including home builders, suppliers and subcontractors, banks, power and communications utilities, title and mortgage insurance companies, real estate developers and other businesses in central Arizona involved in and dependent upon the home building industry.

AGC is a not-for-profit trade association of general contractors, subcontractors and other industry affiliated firms engaged in highway, heavy-industrial, municipal-utility and light rail construction. Since our inception, the Arizona Chapter has been instrumental in bringing about economic and infrastructure development in Arizona through legislative affairs, environmental regulation, labor negotiations, highway budgeting and appropriations. AGC is the oldest construction association representing contractors throughout Arizona. Currently, the industry employs about 243,000 people with another 750,000 in fields that support the industry.

Home Builders and AGC appreciate the opportunity to comment on the Draft Emissions Inventory, which is vitally important to our members, our industries, and the Phoenix metropolitan area's residents. Our comments are divided into general comments that apply to all sources and then specific comments about particular aspects of the Draft Emissions Inventory. We hope Maricopa County Air Quality Department (MCAQD) finds these comments valuable in developing the best representative emissions inventory possible.

General Comments

I. Sound public policy requires an open process to develop the best possible inventory that replicates actual conditions.

Home Builders and AGC were extremely disappointed that the Draft Emissions Inventory and supporting studies were developed without stakeholder input and involvement. Home Builders and AGC have a great deal of technical expertise and unique understandings about their industries. This knowledge is an invaluable resource that MCAQD should use when developing the best emissions inventory possible.

For example, Home Builders and AGC expressed a willingness and desire to work with MCAQD to develop a technically sound and rigorous Rule Effectiveness Study methodology in the summer of 2006. Unfortunately, MCAQD developed its initial study behind closed doors. Additionally, MCAQD did not provide an opportunity to review the Draft Emissions Inventory when it was first developed.

Notwithstanding these earlier disappointments, Home Builders and AGC welcome the opportunities provided by MCAQD to provide input to the Draft Emissions Inventory during the public comment period and appreciate MCAQD's willingness to consider additional information provided.

We recognize that some of the comments and ideas suggested by Home Builders and AGC will require some effort to address. We hope that MCAQD does not simply take the position that there is now too little time left to resolve outstanding issues and incorporate Home Builders' and AGC's suggestions. To ensure that timing and resource issues are not a concern when developing the final emissions inventory, Home Builders and AGC hereby volunteer their expertise and assistance and stand willing to assist MCAQD in its efforts.

II. All emission sources, data sources, assumptions, emission factors, methodologies, and categories should be identified and fully explained.

It is critical that all PM-10 sources be identified and explained. This includes secondary and condensable particulate formation.

For all emission sources, please also identify, and explain the reasons for using, the data sources, assumptions, emission factors, methodologies and categories used to develop emission estimates. For example, we recommend that summary tables 1.6-10, 1.6-11, 3.1-1, 3.6-1, and 3.6-2 be revised to identify construction sources by subcategories, as has been done for other sources such as agriculture, which is subdivided into various agricultural activities.

Additionally, with respect to construction emission estimates, it would be helpful to have definitions of the various subcategories of construction sources that are identified in tables 3.3-17 through 3.3-21. We are concerned that MCAQD's methodology for identifying construction subcategories, which was based on dust control permit forms, does not necessarily correlate to emission factors developed by WRAP, EPA, and others. Roughly two-thirds of the road construction projects in Maricopa County over the past two years involved reconstruction above sub-grade and sub-base or milling and overlaying. These activities generate relatively few emissions.

III. MCAQD should use the best data available.

Home Builders and AGC believe that the best way to ensure the emissions inventory represents actual conditions is to use the best information available. We believe local, current, and measured observations are superior to emission factors extrapolated from national or regional sources. For example, we understand that unpaved road emissions are based on data from the 1990s. See page 108, estimates for miles of improved roads and traffic levels. This information is simply too stale to be used for this important project, which must be comprehensive, accurate, and current.

Specific Comments

I. E.H. Pechan & Associates, Inc. has identified several methods to improve the inventory.

E.H. Pechan & Associates, Inc. (Pechan) has reviewed the assumptions, emission factors, methodologies, and calculations for some of the major source categories identified in the Draft Emissions Inventory. Pechan's analysis is attached and incorporated by reference. As detailed in the attached analysis, Pechan discovered specific concerns with the following categories: (1) construction; (2) windblown dust; (3) paved roads; and (4) unpaved roads.

Pechan's technical concerns include, but are not limited to, the following: (1) computational errors; (2) the use of different assumptions, emission factors, and data in the Draft Emissions Inventory when compared to other inventories; (3) the lack of supporting documentation for some assumptions; and (4) the use of a rule effectiveness methodology that does not adequately represent actual conditions at complex sources such as construction sites.

The following table, solely based on Pechan's analysis of construction emissions, shows the relative contributions of major sources and total emissions in the PM-10 nonattainment area:

Annual PM-10 Emissions in Non-Attainment Area

Source Category	Total PM-10 Emissions	% of Total Emissions
Residential: Single-Family	895	1.46%
Residential: Multi-Unit	2051	3.33%
Commercial	2908	4.73%
Road Construction	1754	2.85%
Site Prep/ Land Development	216	0.35%
Other Construction	58	0.09%
Total Agriculture	2719	4.42%
Offroad Rec. Vehicles	2159	3.51%
Unpaved Parking Lots	3009	4.89%
Windblown Dust	1087	1.77%
Wildfires	4860	7.90%
Aircraft	6364	10.35%
Paved Road Fugitive Dust	13783	22.41%
Unpaved Roads	8490	13.80%
Other Emission sources	11154	18.13%
Total Emissions	61507	100.00%

Pechan has proposed alternative rule compliance methodologies that we believe are appropriately rigorous and detailed for the important purpose of estimating Rule 310 compliance.

We request that MCAQD revise the Draft Emissions Inventory to be consistent with Pechan's suggestions.

II. The Draft Emission Inventory overestimates the acreage under construction.

It is a common practice in the construction industry for one entity to obtain a permit for a large site, and then shortly thereafter subdivide the site to builders, who then obtain another permit for a portion of the same site originally covered under the first permit. Accordingly, using the permit database to determine the amount of acreage actually under construction can be only a starting point for any assessment of acreage under construction.

We are glad to learn that MCAQD recognizes this, and has attempted some creative solutions to address this problem in part. We appreciate MCAQD's expressed interest in obtaining additional information that will further help it identify instances of double-counting.

A good first place to look is at all permits where the site activity listed is site preparation/land development. The entities that obtain these permits are typically large developers who then pass along portions of the large site to individual builders. In fact, MCAQD should review all permits obtained by these entities as well as the permits pulled by others in the same area to identify instances of double-counting.

Additionally, this is a common practice in growing areas near the boundaries of the metropolitan area. We recommend reviewing permits in those areas to determine whether double-counting has occurred. We offer our assistance in that effort.

Implementing the recommendations will allow MCAQD to revise table 3.3-17 to best reflect actual conditions.

III. MCAQD's Rule Effectiveness Study for Rule 310 is seriously flawed.

In addition to the limitations of the County's methodology highlighted in Pechan's comments, there are a number of other problems with the Rule Effectiveness Study (Appendix 2.2 to the Draft Emissions Inventory).

A. MCAQD's yes/no assessment of rule compliance is overly simplistic.

We are greatly concerned that MCAQD's proposal is overly simplistic and insufficiently rigorous for its purpose.

Dust control operations are complex, with several activities ongoing at any one time. Rule 310 is also extremely complex, with dozens of subsections and requirements. However, under the County's approach, limited noncompliance with one requirement, or limited noncompliance at one small area of a dust generating operation, deems the entire site uncontrolled. For example, under MCAQD's methodology, a 1000 acre site with 10 exits that has 51 feet of trackout from those ten exits, is assumed to be completely uncontrolled.

The County's methodology is obviously flawed. As the illustration above suggests, it does not reasonably represent actual conditions. It also conflicts with EPA guidance. In addition, even the underlying inspection data does not support MCAQD's approach. For example, for one site deemed to be noncompliant, the inspector acknowledges that trackout is less than 50 feet, and that the site has "overall good stabilization." See inspection # 609003.

MCAQD has attempted to justify its approach by expressing the concern that even limited noncompliance at a construction site can have an impact on monitored readings of particulate matter. This anecdotal belief, however, in no way justifies creating an emissions inventory that does not represent actual conditions. After all, an inventory that represents actual conditions is what the Clean Air Act requires. The only way to develop a plan that will achieve attainment is to start with an emissions inventory that represents real world conditions. MCAQD's Rule Effectiveness Study does not do that.

MCAQD has also attempted to justify this approach by stating that EPA has remarked in the past that rule compliance was relatively low. We are unaware of any EPA study conducted of Rule 310 compliance. If one has been conducted, it should be made available for public review. To the extent that EPA's belief was based on anecdotal observations made while driving around the Phoenix metropolitan area several years ago, we submit that these observations are stale and pale in comparison to the scientifically rigorous methodology proposed by Pechan. Accordingly, these anecdotes do not justify an abnormally low compliance rate that does not represent actual conditions.

B. The Rule Effectiveness Study sample is not representative.

MCAQD relied on a sample of 63 inspections for its Rule Effectiveness Study. Yet, thousands and thousands of inspections are conducted every year. MCAQD has acknowledged that it has the ability to identify the number of inspections that occurred during a given time period, and determine the number of inspections that resulted in an allegation of noncompliance. This data must be reviewed to determine whether the Rule Effectiveness Study sample is truly representative.¹

MCAQD previously made available similar inspection data from the June 2006 – August 2006 time frame during an October 10, 2006 meeting.² This data from 2,811 inspections showed that the simplistic compliance rate for both administrative and emissions-related requirements was 68%, far higher than the 33% compliance rate determined by MCAQD

¹ Even this data must be reviewed, of course, with the caveat that drive-by compliant inspections may not show up in MCAQD's database, and therefore the compliance rate shown in the data is less than the true compliance rate.

² This 60% figure must also be viewed in context. The 32% of sites with documented violations were not completely uncontrolled.

in the 63 set sample. These more representative numbers should be considered when determining rule compliance.

Additionally, we believe it is also possible to determine which of those violations were administrative and which were emissions-related. We understand that the process of identifying administrative vs. emissions-related allegations of noncompliance is more labor intensive than the process of identifying the total number of inspections, and the total number of sites with violations. Accordingly, Home Builders and AGC would be willing to provide their assistance in any manner that would be helpful to MCAQD to accomplish this goal.

C. Inspection data do not support Rule Effectiveness Study findings.

The inspection reports on which the Rule Effectiveness Study is based contain numerous errors and unsupported allegations. For example, none of the allegations concerning Rule 310, Sections 301 and 302, provides supporting documentation that demonstrate test methods were used to determine compliance. As a result, these unsupported statements cannot be used to allege noncompliance.

Similarly, some of the allegations are not violations of Rule 310 at all. For example, one inspector noted that the stockpile on a particular site was wet, but wrote an NTC because the material "needs visible crust." See inspection # 609030. This allegation is unfounded. Under Rule 310, Section 308.6, a permittee has the option to keep an inactive stockpile moist or maintain a visible crust. For active stockpiles, maintaining a visible crust is not even a listed alternative, because it is not feasible.

Some of the inspection reports allege violations for activities that are not regulated under Rule 310. One inspection report documents an NTC for opacity greater than 20% during sandblasting. See inspection # 609023. Sandblasting is not subject to Rule 310. Another alleges a violation resulting from tile cutting. See inspection # 609024. Tile cutting is not regulated under Rule 310; it is regulated by OSHA.

Finally, Home Builders and AGC concur with Maricopa County's decision to exclude administrative allegations in its emissions compliance methodology. However, the fact that these allegations are mentioned at all in the Rule Effectiveness Study implies rampant noncompliance.

Again, the facts do not bear this out. At least half of the administrative allegations concern dust control complaint phone numbers. During calendar 2006, MCAQD created a new phone number for dust complaints. The previous number continued to work, and continues to work to this day. The applicable rule requirement does not state that there can be only one current/accurate phone number. Therefore, these are not violations under any reasonable interpretation of the rule.

D. Because the Rule Effectiveness Study is so flawed, the Draft Emissions Inventory does not comply with Clean Air Act requirements.

Under Section 172(c)(3) of the Clean Air Act, the emissions inventory must be a "comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in such area...." Given the serious scientific flaws in MCAQD's Rule Effectiveness Study, the Draft Emissions Inventory cannot be a comprehensive, accurate, or current inventory of actual emissions from all sources.

IV. Unpaved road emissions, based on stale data and unsupported assumptions, are greatly underestimated.

Unpaved road emissions are a significant portion of the inventory. By MCAQD's own estimate, they constitute 9% of the PM-10 inventory. Revising the Draft Emissions Inventory to accurately reflect construction emissions increases the unpaved road contribution to nearly 14%. Accordingly, it is critical that unpaved road emission estimates be based on comprehensive, accurate, and current information. Pechan's analysis identified a number of areas where the data sources for unpaved road estimates do not meet these criteria.

For example, MCAQD does not explain the average speed estimate of 25 miles per hour. On rural unpaved roads, speeds are certainly higher. Pechan's analysis showed that changing the speed to 40 mph would increase unpaved road emissions to 10,697 tons per year. Because vehicle speeds greatly influence emission estimates, it is critical that MCAQD base its estimate for vehicle speeds on the best information available.

Second, MCAQD uses average daily traffic volumes that were carried forward from a 1994 study (we understand this is the basis for the assumption on page 108 that the average annual traffic level is 4 vehicles per day). Data from 1994 are not current under any definition of the term, and cannot be used in a 2005 emissions inventory.

In addition, the Draft Emissions Inventory assumes that the mileage of unpaved roads actually decreased slightly over the last several years. See page 108. As noted by Pechan, the Draft Emissions Inventory does not account for new unpaved roads added over the past several years.

Finally, Pechan noted the rigorous methodology undertaken in Clark County to determine unpaved road emissions. Similar methodologies must be used here to create a comprehensive, accurate, and current estimate of unpaved road emissions. Revising the ADT numbers to be consistent with Clark County's would increase the unpaved road fugitive dust PM-10 emissions reported in Table 5.4-10 from 20,954 kg/day to 36,762 kg/day.

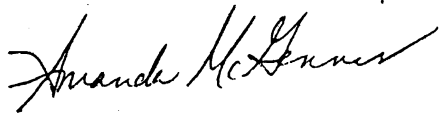
Conclusion

Every stakeholder involved in this process understands that it is critical that the emissions inventory represents actual and current conditions in the nonattainment area. We urge MCAQD to look at the available data objectively and without preconceptions. Only one reasonable conclusion can be drawn if that is done. Rule 310 effectiveness is much higher and construction emissions are much lower than reported in the Draft Emissions Inventory.

Pechan has provided its best estimate, which was based on the available information, and took many of MCAQD's assumptions at face value. We ask that MCAQD use Pechan's methodology and results, incorporate modifications as necessary to reflect our additional comments, and revise the emissions inventory to be a "comprehensive, accurate, current inventory of actual emissions from all sources...."

Thank you for the opportunity to submit these comments.

Sincerely,



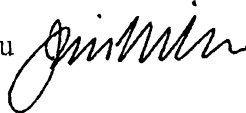
Amanda McGennis
Vice President
Arizona Chapter of
The Associated General Contractors



Albert H. Acken
Lewis and Roca, LLP
On behalf of Spencer Kamps
Vice President of Legislative Affairs
The Home Builders Association of
Central Arizona

MEMORANDUM

To: Home Builders and AGC

From: Jim Wilson, Maureen Mullen, and Ying Hsu 

Date: February 22, 2007

Subject: Maricopa County, Arizona Nonattainment Area, 2005 Periodic Emissions Inventory for PM-10 Review Comments

This memorandum provides our comments on the Maricopa County, Arizona Nonattainment Area 2005 Periodic Emission Inventory for PM-10 draft that was released in January 2007 by the Maricopa County Air Quality Department (MCAQD). This review focuses on the PM-10 emitting source categories with the largest emission quantities in the draft 2005 emission estimates. Our comments are organized by source category.

Construction Emissions

The basic approach used by MCAQD to estimate 2005 construction activity PM-10 emissions is to develop estimates of affected acreage by type of activity, and then to apply standard emission factors and average project durations by project type along with estimates of the effectiveness of existing fugitive dust control rules to estimate controlled 2005 emissions. This approach is a standard one for this source category, with some similarities to the methods used by EPA for its National Emissions Inventory. MCAQD uses estimates of acres permitted for construction during 2005, which is an improvement over some approaches which are based on the dollars spent on construction projects. Overall, Pechan has three concerns about the construction activity PM-10 emission estimates in the 2005 MCAQD Inventory:

1. There is a computational error in the site preparation/land development emission estimate that results in the emissions for the Maricopa County portion of the PM-10 nonattainment area for this project type being overestimated by 2,110 tons per year. The total acre-months in Table 3.3-20 for site prep/land development should be 4,905.6, not 39,244.6. The controlled PM-10 estimate should be 301.6. Table 1 provides a revised version of Table 3.3-20 with corrected values for site prep/land development.

**Table 1. Maricopa County PM-10 Nonattainment Area –
MCAQD 2005 Construction Emission Estimates
Table 3.3-20 with Pechan Corrections**

Project Type	Total Acres	Duration Months	Total Acre Months	EF Tons/Acre-Month	Uncontrolled PM	Controlled PM-10	PM-2.5
Residential: Single Family	32,632	6	195,790	0.032	6,265	3,502	350
Residential: Multi-Unit	10,877	12	130,526	0.11	14,358	8,026	803
Commercial	9,740	11	107,143	0.19	20,357	11,380	1,138
Road Construction	4,199	12	50,390	0.42	21,164	11,831	1,183
Trenching	451	1	451	0.11	50	28	3
Demolition	581	1	581	0.11	64	36	4
Weed Control	178	1	178	0.11	20	11	1
Site Prep/Land Development	4,906	1	4,906	0.11	540	302	30
Temporary Storage Yard	89	12	1,072	0.11	118	66	7
Totals	63,652				62,935	35,181	3,518

- The 2005 MCAQD Inventory applies an emission factor of 0.42 tons/acre-month to estimate road construction emissions. This value was selected based on information from the WRAP Fugitive Dust Handbook, which advises that a 0.42 tons/acre-month emission factor be used for worst case conditions. It is not clear from the information presented by MCAQD in its report why a worst case conditions emission factor was deemed appropriate for road construction in this geographic area. For its 2002 PM-10 emission inventory, a 0.11 tons/acre-month emission factor was applied to estimate uncontrolled road construction emissions. This emission factor change alone produces a 281 percent higher PM-10 emission estimate for road construction than was estimated for the 2002 calendar year. This emission factor selection seems unjustified without evidence being presented by MCAQD for its selection.

Pechan reviewed recent PM-10 emission calculations performed by the South Coast Air Quality Management District, where it is estimated that 25 percent of road construction is at the 0.42 tons/acre-month emission rate and 75 percent is at the 0.11 tons/acre-month rate, which is a net emission factor of 0.1875 tons/acre-month. It is suggested that MCAQD consider using the SCAQMD assumptions in its road construction emission estimates to estimate uncontrolled PM-10 emissions. Making this revision would change the road construction controlled PM-10 emission estimate in Table 3.3-20 to 5,281 from 11,831 tons per year, a reduction of 6,550 tons. This would change the Table 1 corrected PM-10 controlled emission estimate to 28,631 tons per year (from 35,181 tons per year).

- One of the key variables in the controlled PM-10 emission estimate for road construction is the estimated rule effectiveness. Rule effectiveness in this case is a measure of the Rule 310-Fugitive Dust compliance rate in the area. The rule effectiveness guidance available from EPA during the 1990s suggested that a default rule effectiveness assumption of 80 percent be used in most cases to estimate compliance rates in cases where data were not available to estimate this value quantitatively. More recent guidance from EPA removes the previous recommendation for use of an across the board 80 percent default value. EPA's revised rule effectiveness guidance provides inventory preparers with lists of factors that are most likely

to affect RE and ranks these factors in a priority order. For nonpoint sources like construction activity, EPA provides three ranges: 86 to 100 percent, 70 to 85 percent and below 70 percent with associated importance factors to use in determining the appropriate RE to apply.

As part of its 2005 inventory development, MCAQD performed its own RE study to quantify compliance with the fugitive dust rules in the Maricopa County air quality regulatory program. One portion of this RE study examined earthmoving sources. For the earthmoving site RE study, site inspections were performed for 63 sites. MCAQD used the information from these special site visits to assign each site as either being fully compliant (100% RE) or non-compliant (0% RE or uncontrolled). The MCAQD RE study for earthmoving sites found that 31 of 63 inspected sites with no emission violation, and 32 of 63 with observed violations. This information was used to compute an overall RE value of 49 percent, which was used in the PM-10 emission calculations for this source category.

Pechan staff reviewed the inspection results for all of sites that either received a Notice to Correct (NTC) or a Notice of Violation (NOV) and matched that information with the applicable project types, which were described in the inspection reports as not being fully compliant with Rule 310. We then made judgments about which emission sources within the site were uncontrolled and adjusted only those sources. This resulted in a scoring system that assigned values in between zero and 1 when warranted by the information provided by the site inspectors. Table 2 shows how the site inspection reports were evaluated. The columns in this table are the site inspection report numbers. For each site inspection, the letters V and C are used in Table 2 to indicate the source type (project type) associated with any violation (V) or notice to correct (C). There were three sites with notices of violation that indicated widespread violations to the extent that the site was deemed fully uncontrolled (site numbers 609071, 609005, and 609007). For all other sites, the PM-10 emission rates were estimated to be uncontrolled at the sites where either a V or a C is indicated in that row. As an example, if 10 sites had a V or C for site prep/land development, then the RE was estimated to be $10/63$ times zero plus $53/63$ times 100 percent, or 84 percent. The denominator of 63 is the total number of earthmoving sites inspected during the MCAQD RE study. In this way, a rule effectiveness value is computed for each project type. Then, that project type-specific RE value is used to estimate 2005 emissions consistent with the methods employed by MCAQD in section 3.3.9 Construction of the 2005 Periodic PM-10 Emission Inventory.

Pechan's revised PM-10 emission estimates for the construction category using the above methods are provided in Table 3. Pechan's revised PM-10 emission estimate for construction activity in Table 3 is 10,059 tons per year, significantly lower than the MCAQD reported value. (This table uses the higher 0.42 tons/acre-month emission factor for road construction.) If the lower SCAQMD composite emission factor of 0.1875 were used, this would change the resulting construction activity PM-10 estimate to 7,882 tons per year.

Because the information in the rule effectiveness study inspection reports is organized by Rule 310 section rather than by emissions generating sub-category, an alternate analysis was performed where the NOV's and NTC's were organized by the Rule 310 sections. This analysis is

shown in Table 4. This table was constructed by taking the information in the rule effectiveness study inspection reports and noting wherever the report said that a specific rule NOC or NTC occurred. The level-of-detail provided in Table 4 for the Rule 310 requirements is designed to match the level-of-detail provided in the inspection reports.

Table 5 summarizes the results of this alternate analysis. Table 5 summarizes the total NOV plus NTCs by rule number as well as the occurrences of NOVs and NTCs separately. Then, in the right-most columns of this table, the number of occurrences is used to compute a non-compliance rate for each rule number that had an NOV or an NTC. For example, Table 5 shows that about 8 percent of inspected sites had either an NOV or an NTC for the opacity limits for dust generating operations (Section 301 of Rule 310). Therefore, for this specific section of Rule 310, the rule effectiveness survey showed a 92 percent compliance rate, and an 8 percent non-compliance rate.

For the eight rule sections in Table 5 where there were one or more NOVs/NTCs, the non-compliance rates were averaged to estimate an overall non-compliance rate of 13 percent. The non-compliance rates by rule section range from a low of 1.5 percent for unpaved haul/access piles to a high of 27 percent for stabilization. This average rule effectiveness value of 87 percent (13 percent non-compliance) computed using this alternate methodology is very close to the 84 percent estimate provided above, and serves as confirmation of the revised PM-10 emission estimates provided in the right-most column in Table 3.

Windblown Dust

Any calculation of 5 percent per year emission reductions for the PM-10 nonattainment area should use an average, or typical year emission estimate for windblown dust emissions, so more information is needed in the ENVIRON analysis, or the body of the report, about the representativeness of the PM-10 emission estimate computed using 2005 meteorological data. One of the weaknesses of the windblown dust inventory model application is the lack of accounting for rainfall (page 2-8 of Appendix 3-3). In addition, it is suggested that daily PM-10 emissions be presented in the appendix for the specific days when wind speeds exceeded 20 miles per hour and there were positive emissions for this source type. The 2005 windblown dust emissions estimate for the PM-10 nonattainment area is 1,086 tons per year.

Another concern with the approach used by ENVIRON is its suitability for estimating windblown dust PM-10 emissions for an analysis of this geographic scale. The RMC windblown dust model "is designed to estimate fugitive windblown dust emissions for regional air quality modeling." Is the model valid for smaller scale applications like this one where the relative accuracy of the estimate is more important? Has the model been validated for PM-10? It seems likely that this model has been designed primarily to estimate fine particulate windblown dust emissions over large geographic regions and may not be a good predictor of PM-10 emissions for a State Implementation Plan/regulatory analysis.

The ENVIRON report also lacks clarity in describing how the emission calculations were performed for each land use type, which makes it difficult to determine whether the emission estimates are correct. For example, page 2-9 of the ENVIRON report discusses surface

disturbance assumptions used in the windblown dust model that conflict with what is said later in the report on page 4-3. Some of the key assumptions mentioned on page 4-3, like those about the fraction of barren lands that are disturbed (30 percent) and the fraction of shrublands that are disturbed (8 percent) are provided with no back-up information. These assumptions and the assumptions about threshold friction velocities have a substantial effect on resulting emission estimates by land use type and should be justified and referenced.

In the end analysis, ENVIRON estimates PM-10 emissions for just four land use types: (1) agricultural lands, (2) grassland, (3) shrubland, and (4) barren lands. Urban lands are estimated to have no windblown dust emissions. When the relationship between land area, land use type and PM-10 emissions is compared (Table 3.3 and Table 5-3), the relative PM-10 emission strengths (in tons per square kilometer) are: barren land (1.14 tons per square km), shrubland (0.25 tons per square km), and agricultural land (0.0078 tons per square km).

**Table 2. Maricopa County Nonattainment Area Portion
Construction Rule Effectiveness Survey Analysis**

Project Type/Inspection Report No.	609073	609071	609005	609007	609024	607469	609018	605739	605740	605749	607450	607448	609074	609003	609027	607473	609030
Residential: Single Family		V	V	V													
Residential: Multi-Unit		V	V	V													
Commercial		V	V	V													
Road Construction		V	V	V			V	V	V								
Trenching		V	V	V													
Demolition		V	V	V													
Weed Control		V	V	V													
Site Prep/Land Development	V	V	V	V	V	V		V		V	V	V	V		C		
Temporary Storage Yard	V	V	V	V	V			V		V	V	V				C	
Trackout		V	V	V	V				V	V	V		V	C		C	
Opacity		V	V	V													

Project Type/Inspection Report No.	609022	609023	609015	609069	609068	605731	605735	605737	605746	605745	605744	607444	607476	607449	607447
Residential: Single Family															
Residential: Multi-Unit															
Commercial															
Road Construction															
Trenching															
Demolition															
Weed Control															
Site Prep/Land Development															
Temporary Storage Yard				C			C	C	C	C	C		C	C	C
Trackout					C	C	C		C	C			C	C	C
Opacity			C						C			C			

Note: V = violation, C = notice to correct

**Table 3. Maricopa County PM-10 Nonattainment Area – MCAQD 2005 Construction Emission Estimates
with Pechan's RE Study Analysis Changes**

Project Type	Total Acres	Duration Months	Total Acre Months	EF Tons/ Acre-Month	Uncontrolled PM	Controlled PM-10	PM-2.5	NOV/NOC Count	Pechan PM-10 From RE Study
Residential: Single Family	32,632	6	195,790	0.032	6,265	3,502	350	3	895
Residential: Multi-Unit	10,877	12	130,526	0.11	14,358	8,026	803	3	2,051
Commercial	9,740	11	107,143	0.19	20,357	11,380	1,138	3	2,908
Road Construction	4,199	12	50,390	0.42	21,164	11,831	1,183	6	3,930
Trenching	451	1	451	0.11	50	28	3	1	6
Demolition	581	1	581	0.11	64	36	4	3	9
Weed Control	178	1	178	0.11	20	11	1	3	3
Site Prep/Land Development	4,906	1	4,906	0.11	540	302	30	21	216
Temporary Storage Yard	89	12	1,072	0.11	118	66	7	17	40
Totals	63,652				62,935	35,181	3,518		10,059

Table 4. Construction Rule Effectiveness Survey Analysis

Fugitive Dust Rule 310																	
Standards	Project Type/Inspection Report Number	609073	609071	609005	609007	609024	607469	609018	605739	605740	605749	607450	607448	609074	609003	609027	607473
301	Opacity Limitation				V	C	V										
302	Stabilization Requirements					C		V	V	V	V	V	V			C	
306	Control Measures						V	V	V	V	V	V	V	C			
308	Work Practices																
308.1	Bulk Material Hauling--Off Site																
308.2	Bulk Material Hauling--On Site																
308.3.a	Ineffective Trackout Control Device	V	V	V	V	V					V			C	C		C
308.3.b	Trackout Beyond 50 Ft	V			C					C				C	C		
308.4	Unpaved Haul/Access Roads										V						
308.6	Stockpiles Dry And Silty				V	C			V		V	V	V				C
308.7	Soil Moisture		V				V					V					

Fugitive Dust Rule 310																	
Standards	Project Type/Inspection Report Number	609030	609022	609023	609015	609069	609068	605731	605735	605737	605746	605745	605744	607444	607476	607449	607447
301	Opacity Limitation			C										C			
302	Stabilization Requirements	C	C		C	C			C		C	C	C		C	C	
306	Control Measures						C			C						C	C
308	Work Practices																
308.1	Bulk Material Hauling--Off Site																
308.2	Bulk Material Hauling--On Site																
308.3.a	Ineffective Trackout Control Device										C						
308.3.b	Trackout Beyond 50 Ft				C									C			
308.4	Unpaved Haul/Access Roads																
308.6	Stockpiles Dry And Silty						C	C	C						C		
308.7	Soil Moisture																

Note: V = violation, C = notice to correct

Table 5. Construction Rule Effectiveness Study Results Summary

Rule Number	Description	Total NOV+NTC	NOVs	NTC	Percentage of Sites With		
					NOV+NTC	NOV	NTC
301	Opacity	5	2	3	0.08	0.03	0.05
302	Stabilization	17	5	12	0.27	0.08	0.19
306	Control Measures	12	7		0.19	0.11	0.00
308	Work Practices						
308.1	Bulk Material Hauling--Off Site	0	0	0	0.00	0.00	0.00
308.2	Bulk Material Hauling--On Site	0	0	0	0.00	0.00	0.00
308.3.a	Ineffective Trackout Control Device	10	6	4	0.16	0.10	0.06
308.3.b	Trackout Beyond 50 Ft.	7	1	6	0.11	0.02	0.10
308.4	Unpaved Haul/Access Roads	1	1	0	0.02	0.02	0.00
308.6	Stockpiles Dry And Silty	11	5	6	0.17	0.08	0.10
308.7	Soil Moisture	3	3	0	0.05	0.05	0.00
Overall non-compliance rate					0.13		

The 2002 windblown dust PM-10 emission estimate for the nonattainment area was 10,505 tons per year. However, the 2002 PM-10 emission estimate used a threshold wind speed of 15 miles per hour and the 2005 analysis assumed a threshold wind speed of 20 miles per hour. The 2005 emission inventory report should explain why a higher threshold wind speed was used in 2005 than previously. Is this based on research within the Phoenix area on the wind speed versus emissions relationship?

Paved Road Emissions

Paved road emissions were estimated using EPA's AP-42 equations. Area-specific inputs to this equation are the paved road silt loadings and average weight of the vehicle fleet traveling on the roads. The values used for silt loadings varied by freeways, high-traffic roads, and local and low-traffic roads. The values for these silt loading values are documented in the MCAQD 1999 Serious Area Particulate Plan and appear to be reasonable values, and are also relatively close to the AP-42 defaults. The average vehicle weight assumption of 3 tons per vehicle is a default value that essentially eliminates vehicle weight from factoring into the emission factor calculation. This is generally acceptable practice. However, a more locally-specific value could be derived based on the VMT mix used in calculating the onroad exhaust emissions, by assigning an average vehicle weight to each vehicle type and weighting these values according to the VMT mix. The one significant area of concern in the paved road emissions calculations, though, is the improper calculation of PM-2.5 emissions from the PM-10 emissions. In the MCAQD 2005 inventory, the PM-2.5 paved road emissions are calculated by multiplying the PM-10 emissions by 0.15. Instead, the PM-2.5 emissions should be calculated by using the same AP-42 equation used to calculate the PM-10 emissions, but using the PM-2.5-based particle size multiplier and the PM-2.5-based correction factor that accounts for exhaust, brake wear, and tire wear. Using the appropriate equation and factors results in PM-2.5 emissions for the PM-10 modeling area of approximately 1,000 kg/day, yields a reduction of about 5,000 kg/day from the 6,360 kg/day value reported in Table 5.4-6.

The AP-42 equation for paved roads also includes an adjustment to account for the effects of precipitation on paved road emissions. MCAQD does not include this adjustment. Based on 18 days in 2002 with greater than 0.01 inches of precipitation, the PM emissions from paved roads would be reduced by approximately 1.4 percent. This would change the Table 5.5-1 PM-10 annual emissions from paved road fugitive dust for the PM-10 nonattainment area from 13,783 tons per year to 13,590 tons per year. Unless the Phoenix area experienced significantly more precipitation than this in 2005, it is not expected that applying the precipitation correction would significantly change the calculated paved road emissions.

Unpaved Road Emissions

Unpaved road emissions were also calculated using the AP-42 emission factor equation. This equation for unpaved road emissions includes terms for surface material silt content, average vehicle speed, and surface material moisture content. The values used by MCAQD are all reasonable, however, no explanation for the use of these values is provided. The average speed value modeled of 25 miles per hour should be based on actual data, as this can have a significant impact on the emissions. For example, changing the speed to 40 mph would cause the unpaved road PM-10 emissions to increase by about 26 percent. This would change the Table 5.5-1 PM-10 annual emissions from unpaved road fugitive dust for the PM-10 nonattainment area from 8,490 tons per year to 10,697 tons per year. In contrast, modeling these emissions at a speed of 15 mph would result in a decrease in PM-10 annual emissions to 6,537 tons per year. Another general concern is that the emission totals for the PM-10 modeling area reported in Table 5.4-10 cannot be duplicated using the AP-42 equation and the stated inputs. Applying the information provided by MCAQD to the AP-42 unpaved road equation results in PM-10 emissions that are about 11 percent greater than those reported in Table 5.4-10, or 23,226 kg/day.

Activity for unpaved roads is calculated by multiplying an average daily traffic (ADT) volume by unpaved road mileage. MCAQD uses an ADT of 4 vehicles per day on low traffic roads and 120 vehicles per day on high traffic roads. This is an assumption that appears to be carried forward from the 1994 PM inventory for Maricopa County. This value is an assumption that does not appear to have been based on any actual data. The unpaved road emissions are directly proportional to the ADT values. Thus, if the low traffic ADT is actually 40 rather than 4, then the emissions from the low traffic roads would be increased by a factor of 10. This would result in a change to the Table 5.4-10 total unpaved road PM-10 fugitive dust emissions in the modeling area from 20,954 kg/day to 48,053 kg/day. Thus, it is important that this ADT value have some basis in actuality.

The unpaved road mileage used in these calculations is also of concern. The 2005 unpaved road mileage for low traffic roads of 1,129.2 miles is essentially the same as the values used for 2001 through 2006 in the 1999 Serious Area PM-10 Plan. The mileage modeled for the 2005 inventory on high traffic unpaved roads of 224.3 represents a decrease of 54 miles from the 2006 projections in the 1999 Plan. The 2005 inventory indicates that this represents the reduction in unpaved road mileage due to the control measures in the 1999 Plan to Reduce Particulate Emissions from Unpaved Roads and Alleys. However, the documentation does not state how many miles of roads have assumed to have been paved. One of the appendices to the Revised

MCAQD 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area lists commitments by several jurisdictions in the MCAQD area to pave, gravel, or stabilize emissions from unpaved roads. This list does not provide sufficient information to calculate the mileage reduced from unpaved roads. Additionally, there is no indication that growth in unpaved roads since the time of the 1999 plan has been factored into this analysis. With the growth in population and VMT in the MCAQD area, it is unrealistic to expect that the mileage of unpaved roads in the area has not increased since 1999.

As with the paved roads, the AP-42 documentation includes a precipitation adjustment. No adjustment for precipitation was applied to the unpaved roads, but, again, this is not expected to have a significant impact.

Unpaved Road ADT Estimation Methods Used in Other Areas

Due to the sensitivity of the unpaved road fugitive dust emissions to the average daily traffic volume used, information on how this value was derived in other comparable areas in the Southwest was investigated. The Clark County, Nevada, PM-10 SIP was prepared in June 2001 and estimates the ADT for unpaved roads based on traffic count data. The Clark County SIP indicates that traffic counts were taken on a representative sample of the unpaved roads in the area and these samples were then used to predict daily traffic volumes on the remaining unpaved roads. The roads were divided into four volume categories. For the first three categories, the average of the daily traffic volume range was modeled as the ADT for the roads in each category, resulting in ADTs of 25, 75, and 125 for these three categories. The fourth category included unpaved roads with ADTs estimated to be greater than 150. Because the upper end of this range was unknown, the ADT for this category was set to 151. This method of estimating ADT based on actual traffic counts is more robust than the Maricopa County method which relies on model assumptions of 4, 120, and 120 vehicles per day on low, medium, and high ADT roads, respectively. Although the MCAQD documentation does not indicate the ADT volume range for the low, medium, and high ADT unpaved road categories, a conservative assumption could be made that these roads fall in a less than 50 ADT volume category. Making the argument that the lowest ADT category of unpaved roads in Maricopa County should be comparable to those in Clark County, based on proximity and comparable geographic conditions, then it would be reasonable to assume that the ADT for the low ADT category should be increased to 25 vehicles per day. Such an assumption would increase the unpaved road fugitive dust PM-10 emissions reported in Table 5.4-10 from 20,954 kg/day to 36,762 kg/day in the PM-10 modeling area.



ESTABLISHED 1951

December 11, 2007

Johanna Kuspert
1001 N. Central Ave. Suite 595
Phoenix, AZ 85004

Re: Home Builders Association of Central Arizona's Comments to Rule 310

Dear Johanna,

On behalf of our association's 900 plus members, the Home Builders Association of Central Arizona (HBACA) submits these comments to Draft Rule 310, dated November 9, 2007, and looks forward to your response:

Our industry has made, and continues to make, substantial efforts to reduce emissions from our activities. Even though Rule 310 in its current form represents the best available control measures and most stringent measures found anywhere in the county, during the current Five Percent Plan stakeholder process, the HBACA supported the training measures and subcontractor registration requirements of SB 1552 that will impose additional burdens on our industry because the emission reduction benefits from these measures have been documented and are significant. In fact, MAG's public estimate of emission reductions was 4,330 tons per year and its consultant estimated reductions of 9,970 tons per year. ADEQ personnel estimated the emission reductions were over 7,500 tons per year. An analysis conducted by Kitchell Environmental, incorporated by reference as Attachment A, demonstrates that these measures will reduce emissions by 8,485 tons per year.

Although our comments in this letter are focused on our concerns with Rule 310, we also want to communicate with the Maricopa County Board of Supervisors that we believe the proposed Five Percent Plan, of which Rule 310 is but one part, will fail because it has failed to identify the problems for our continued non-compliance with the Federal Clean Air Act (CAA) and, therefore, has failed to adopt thoughtful and targeted measures to reduce emissions on those targeted sources. Due to this failure, we believe that Maricopa County has committed to measures that will not bring us into compliance with the CAA, and failed to adopt measures that will.

We believe that the critical goal of the Five Percent Plan should be a successful strategy that allows the Maricopa County non-attainment area to comply with the standards set forth in the CAA. The HBACA has been involved in the State Implementation Plan process and air quality debate for over ten years. Time after time, we have seen the air quality strategy target permitted sources in an effort to clean our air. Year after year, a strategy of “construction” only has been implemented and each time that strategy has failed.

As you know, the past several months have been an uncertain and extremely difficult market for our industry.

This rule would impose steep financial burdens on our members, the individuals who are employed by our members, the businesses who transact with our members, and our eventual home buyers. This proposal is an unnecessary roadblock on the path to the recovery for our industry. As a result, we fear it will cause great harm to our members, and, ultimately Maricopa County.

It is time for a new strategy. We believe the only way to move Maricopa County towards attainment is to raise the compliance efforts at far more significant sources, such as unpermitted sources and unpaved roads, to levels similar to those already found in the single family residential home building community.

Failure to come into attainment by 2009 will require the Phoenix metropolitan area to continue to find 5% annual cuts in emissions. Failure to develop a workable, lawful Five Percent Plan has even more severe consequences - sanctions. Therefore it is critical that the Five Percent Plan development be thoughtful and deliberate.

We appreciate the efforts of Maricopa County to meet with us and listen to our concerns during the current Rule 310 stakeholder process. Unfortunately, we cannot support the proposed rule as drafted because we have not seen documentation that demonstrates how the proposed revisions to Rule 310 will reduce emissions.

We urge you to reconsider the current course.

Following are our specific comments to the draft Rule.

1. No Rule 310 revision is needed for the Five Percent Plan.

In contrast to the proposed Rule 310 revisions, Senate Bill 1552 was a collaborative effort of all affected stakeholders. ADEQ has estimated that the law as enacted will reduce emissions by 10,425 tons, which is more than 100% of the emissions required in the first two years of the Five Percent Plan.

The HBACA did not support SB 1552 because it did not go far enough to regulate unpaved roads, unpaved shoulders, and unpermitted sources, which, according to MCAQD’s emission inventory, contribute roughly 20,000 tons per year, or 23%, to the nonattainment area’s total

emissions.¹ In addition to their large overall emission contribution, many of these sources are congregated in the Salt River area and are the reason for exceedances documented at the monitors in the area.

To fill that gap, municipalities and Maricopa County stated that they would impose steep burdens on themselves through enforceable commitments to pave roads and shoulders and regulate unpermitted sources. If implemented, reductions from unpaved roads and shoulders and increased Rule 310.01 compliance will be sufficient to show a third year of 5% reductions for contingency purposes.

2. This proposal does not comply with A.R.S. §41-1055.

Imposing additional measures that do not reduce dust emissions through Rule 310 is unnecessary and unwise. Impose these measures today, and the region suffers needless economic pain. We have compiled significant data concerning the economic costs associated with some of these proposals. Incorporated by reference as Attachment B is an analysis performed by Kitchell Environmental. We ask that you incorporate it into the economic, small business, and consumer impact statement required by A.R.S. §41-1055.

As currently crafted, the impact statement is inadequate. For example, costs associated with a 25-foot trackout control threshold and property boundary limitations have been documented by both MAG and Kitchell and are substantial. We would be happy to work with you and provide additional reasonably available analysis and assistance as you develop the required impact statement.

3. The proposal does not comply with A.R.S. §49-112.

As you know, before imposing requirements more stringent than found elsewhere in the state, MCAQD must make the findings required by A.R.S. §49-112. The conclusory paragraphs on page 37 of the preamble do not meet this burden. In particular:

- The discussion does not explain why the regulation is necessary to achieve attainment;
- The discussion does not identify what credible evidence exists to show that the rule revisions are necessary to prevent a significant threat to public health or the environment;
- The discussion does not identify what credible evidence exists to demonstrate that the proposed rule revisions are technically and economically feasible;
- The discussion does not identify what credible evidence exists that these particular measures are required under federal statute or regulation. Section 189(d) simply requires the development of a plan showing 5% annual reductions. It does not specify what measures are required to be included within that plan.

Fundamentally, MCAQD cannot meet its burden at this time. Imposing additional measures in Rule 310 is unauthorized under A.R.S. §49-112 because MCAQD has not demonstrated that emission reductions are associated with these various rule revision proposals and has not demonstrated that rule revisions are necessary to comply with the Five Percent Plan.

¹ By contrast, MCAQD's estimate for single-family residential construction is 3,400 tons per year, or 4% of total emissions.

- 4. Rather than add new rule requirements that will increase the potential for noncompliance, MCAQD should focus its efforts on ways to increase compliance with the current rule.**

According to MCAQD's final emissions inventory, Rule 310 is currently 90% efficient at reducing dust, yet compliance is only 51%.

As you know, the HBACA strongly disputes that compliance estimate. A comprehensive analysis of a calendar year's (2005) worth of inspections demonstrates that compliance is at least 74%. MCAQD has stated that its 63 inspection subset was more representative than the 74% inspection rate because it included both Level I and Level II inspections. HBACA agrees that the 74% inspection rate is not completely representative of compliance. MCAQD has acknowledged that its inspections are complaint driven. As a result, the 74% inspection rate was largely the compliance rate for inspections conducted pursuant to citizen complaint. The compliance rate for sites without complaints will naturally be even higher. Pechan's sophisticated analysis, incorporated by reference as Attachment C, demonstrates that Rule 310 compliance currently approaches 85%. That is a figure that for which MCAQD should be proud.

It is critical that the estimate of compliance be accurate. If the MCAQD compliance number is wrong, MCAQD will be imposing new restrictions on emissions that essentially do not exist, leading to certain failure to reach attainment.

Assuming, however, that MCAQD's 51% compliance rate were accurate, however, the HBACA asserts that it would be more appropriate to focus on ways to improve compliance rather than add new control measures to Rule 310. That is why the HBACA supported the training provisions in SB 1552, which will reduce emissions by several thousand tons per year.

In contrast to the SB 1552 measures designed to increase compliance with current requirements, all of the measures proposed by MCAQD in the draft rule 310 would impose more compliance burdens. In the preamble, MCAQD asserts without explanation that these new requirements will increase compliance with current requirements.

The HBACA does not understand this approach. A teacher whose students correctly answer 51% of the questions on a test is better served by educating her students than penalizing them with a more difficult test. Accordingly, HBACA requests an explanation as to how each of the proposed rule changes will increase compliance with the current rule, rather than raise the potential for reduced compliance in the future. After all, if noncompliance with any one provision is sufficient to deem an entire site uncontrolled, adding dozens of new requirements only increases the potential that a site will be noncompliant.

The HBACA renews its request that MCAQD focus on measures to improve compliance, not adopt new requirements that threaten to decrease compliance.

- 5. Government entities, utilities, and the private sector should be subject to the same requirements.**

According to MCAQD's own estimates, the residential single family construction industry contributes 4% of the emissions in the Maricopa County nonattainment area. The contributions of unpaved roads, unpermitted sources, and other construction sources are all higher.

Yet MCAQD continues to impose greater burdens on the single family residential homebuilding community than any other group. Rule 310 contains a hierarchy of requirements. Unpermitted sources are subject to none. Governments and utilities are subjected to some. Permitted sources are subject to many. And large-acreage projects, of which residential developments are the most common, are subject to the most requirements and the largest number of inspections compared to any other activity (even though MACQD's own emission inventory states that home building contributes less dust per acre than commercial or road building).

As an example, if you are the owner of a vacant lot you are given a opportunity to correct and held to a much different standard than a mothballed construction site (which must be stabilized at all times or face a penalty of \$10,000 per day even though no activity is taking place). Why is your approach so focused on an already regulated industry?

The dichotomy between permitted and unpermitted sources under Rules 310 and 310.01 is even more pronounced. The HBACA incorporates by reference as Attachment D the comments of the Arizona Chamber of Commerce on this point.

There is no justification for imposing more requirements on one of the smallest contributors. The single family residential community is not asking for fewer requirements. We just want everyone else to meet the same requirements we already do. Adding new requirements on our industry will only make the current unfairness more pronounced.

6. Administrative due process is needed.

While enforcement actions garner headlines and income for Maricopa County, they can also foster deep resentment and mistrust in the regulated community.

MCAQD believes:

The apparent motivation for the desire to have an appeals board seems to be based on the assumption that such a board would dismiss or reduce penalties for NOV's more easily than the Enforcement Division does already. [MCAQD Responses to the "Issues to address in Rule 310"]

The HBACA is disappointed that MCAQD appears to have such a negative view of our industry. MCAQD has acknowledged that its inspectors are not "fact finders." All the regulated community requests is an opportunity to be heard before a neutral arbiter before being subjected to the "choice" of either paying a fine determined by MCAQD or being sued. The due process rights that the HBACA seeks are fundamental ones, and we believe that all should be supportive of this long-standing American tradition.²

As part of the Five Percent Plan development, Maricopa County has committed to hire dozens of new inspectors. With new inspectors comes the increased potential for inconsistent enforcement. Due process is needed to ensure that all inspectors enforce the laws equitably and consistently.

² Arizona courts consistently support these rights and disapprove of administrative processes in which the decision-maker has a pecuniary interest in the outcome. *See, e.g., R.L. AUGUSTINE CONST. v. PEORIA SCHOOL DIST.*, 183 Ariz. 393 (App. 1995).

The Board of Supervisors has correctly supported the need for consistent enforcement, and should put measures in place to ensure that it occurs.

As you are probably aware, this is a process that exists in Clark County and Pima County, two areas that are currently meeting PM10 standards. We believe this is not an anomaly. Providing due process increases industry's belief in the fairness of the process and ultimately will increase compliance.

7. Subcontractors must be clearly identified.

SB 1552 also included an important subcontractor registration program. Successful implementation depends on a clear identification system. First, the identification number issued to a contractor needs to be regulated just like the fonts on a dust control sign. ex. 4" min. height, black, block, letters over a white back ground.

Additionally, MCAQD needs to mandate the placement of the ID numbers on contractor's vehicles and equipment. For example, pickup trucks- ID number is to be placed on the back of each side of the truck bed just below the top of the bed; water trucks- ID number is to be placed on the top back corner of each door; earthmoving equipment- ID number is to be placed on each side in a conspicuous location.

Rental equipment will need to be identified as well. Magnetic stickers will have to be used with the contractor's ID number. The contractor will have to install and remove the magnets as equipment is delivered and removed for job sites. We have spoken to a couple of sign companies about the logistics of this. The companies make magnetic advertisement for vehicles all the time. The magnets do not blow off vehicles at freeway speed and typically only come off when they are removed, so durability is not a concern.

Finally, MCAQD needs to notify all registered contractors of the new process and the time frame to get registered and vehicles identified with there designated ID number. If a contractor is not registered a violation should be issued to the contractor not the permit holder.

8. Changes during the stakeholder process should be identified.

It appears that this rule proposal was predetermined, as there have been very few changes made during the stakeholder process. To address this concern, please identify all substantive changes from MCAQD's original stakeholder draft and the rule as proposed on August 29, 2007.

9. Identify the emission reductions associated with each proposed change.

To claim reductions in the Five Percent Plan and to comply with A.R.S. §49-112 and 41-1055, MCAQD must identify the emission reductions associated with each specific proposed measure, before this rule is adopted. The HBACA has been supportive of measures that increase compliancy and reduce dust. The reason we do not support the proposed revisions to Rule 310 is that we have yet to see the amount of dust reduced by these very costly measures. For example, what are the emission reductions associated with the following:

- Changing the trackout length from 50 feet to 25 feet
- Changing the definition of unpaved parking lot to eliminate size threshold

- Adding new section 302.2
- Imposing a property boundary standard that contains no exemptions for wind events or other causes that are beyond the control of a source.
- Imposing new recordkeeping requirements

10. Following are additional comments on proposed rule revisions.

- **103.2 Exemptions.** For fairness and maximum emission reductions, significant sources such as vacant lots and unpaved roads should be subject to the same emission control requirements as permitted sources. Accordingly, rather than different rules for permitted and unpermitted sources, HBACA recommends that all fugitive dust sources be subject to Rule 310. This does not mean that all unpermitted sources would require permits. Vacant lots and unpaved roads could be excused from permitting requirements as they are currently.
- **103.3. Emergencies.** Provision should not discriminate against private agencies.
- **203. Bulk Material Definition.** Term “Earth” is vague and redundant of other terms listed and does not contain exclusion for material greater than 2 inches in diameter. Terms “rock, gravel and pumice” are duplicative of aggregate and do not contain exclusion for materials greater than 2 inches in diameter. Terms “Sediment and Fill” are duplicative of other terms and do not contain exclusion for materials greater than 2 inches in diameter.
- **204.** “Piling” and “moving” are vague and redundant of more specific terms transporting, unloading, and stacking.
- **205.** Rather than list specific control measures, reference Section 305.
- **209.** Definition should be limited to anthropomorphic sources. 209.3 through 209.8 are already in earthmoving definition, so inclusion here is redundant. 209.9 should be revised as follows: “209.9 Operation of ~~any outdoor equipment~~ haul trucks or other motorized machinery in conjunction with or for the purposes of conducting activities listed in subsections 209.1 and 209.2.” 209.10 through 209.14 should be deleted, because unrelated to the purposes for which a permit is obtained and do not meet the definition of “source” and “building, structure, facility, or installation. For example, as crafted, operating motorized machinery is a dust generating operation. Dust generating operations that disturb more than 0.1 acre require a permit. Accordingly a permit would be necessary to operate a vehicle on a county road under this proposal.
- **213.** Discriminatory definition, should not exclude private sector. Phrase “technology-based emission limitation under the permit” should be replaced with “limitation in this rule.”
- **216.** Definition must exclude natural sources, including wind. Otherwise, wind would meet definition of a dust generating operation for which a permit is required. Also, concrete and tile cutting should be explicitly excluded.

- 217. Rule requirements should not be in definition section. If to remain, revise as follows: “If practicable, a gravel pad should Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50 feet long or the length of the longest haul truck, whichever is greater.”
- 223. Definition should include exclusion for washed materials, which would not have 5% silt content and should not require testing.
- 226. Definition unnecessary and unenforceable in the field.
- 233. No change necessary to current definition concerning area limitation. As proposed, one car idling onsite would render that spot an unpaved parking lot.
- 301. Subsections unnecessary and confusing, because they could lead to multiple NOV's for one action. Initial section is unnecessary, because covered in 305.
- 302.2. Subsection unnecessary and incapable of consistent enforcement in the field. How will inspector know whether one site is under common control with another?
- 302.5. Subsection does not contain the qualifiers found in Rule 200, Section 309.1, 309.2, and 309.3. No rule would be necessary if the Control Officer had the authority to impose whatever condition he deemed necessary to assure compliance with 20% opacity standard.
- 302.7. Subsection unnecessary and problematic. What if Rule 310 preempted in the future by state or federal law?
- 303.1.b. A blanket prohibition is unlawful. See, e.g., *Ross Neely Express, Inc. v. Alabama Dep't of Env'tl. Mgmt.*, 437 So.2d 82 (Ala. 1983); *CF & I Steel Corp. v. Colorado Air Pollution*, 640 P.2d 238, 241 (Colo. App. 1981). While some jurisdictions may have some sort of property boundary limitation on the books, that is only because they do not impose blanket prohibitions or have not been challenged.

Pima County does not impose a blanket prohibition. Pima County's rule states: “No persons shall [allow] visible emissions .. beyond the property boundary line within which the emissions become airborne, ***without taking reasonable necessary and feasible precautions....***” Emphasis added. Under Pima County's rule, so long as reasonably necessary and feasible precautions are taken, emissions can cross the property line. Pima County also provides an exception for wind events, which this proposal does not do.

Note, this is an example of a measure where due process for the industry would be beneficial, which Pima County does as well, because there is no test method for this measure.

- 303.a.(iv). Wind fences should stand alone as an alternative or be removed, as it currently adds nothing to the rule.

- **304.1 and 304.2.** Reference to opacity standard should be stricken as redundant. Opacity covered under 303.
- **304.3.** The new phrase “Visibly distinguishable stabilization characteristics,” redundant and vague, will lead to inconsistent enforcement and should be stricken. Change from “visible crust” to “soil crust” is vague and should be stricken.
- **305.1.** Current rule imposes different requirements for hauling offsite, hauling within a site, and crossing a public road. See tables 13 and 15. No change should be made. This proposal creates confusion as to applicability of 305.1 vs. 305.2 vs. 305.3. Subsection (a)(2) is infeasible. It is impossible to load haul truck so that load is completely level or lower in the center than it is on the sides. Subsection (c) is redundant, covered under trackout provisions.
- **305.3.** Subsection b is infeasible. Subsection d is redundant and should be removed to prevent confusion and possible duplicative enforcement.
- **305.4 and 305.5(a).** What does the phrase “as necessary” mean? As necessary to comply with opacity standard? If so, this section is not necessary, because opacity is already a rule requirement.
- **305.5(b).** Wind fences should stand alone as an alternative or be removed, as it currently adds nothing to the rule.
- **305.6.** Definitions must be added. Storage areas should be stricken as covered under storage piles. Current rule for parking lots allows water to be applied to meet silt loading requirements. Proposal to require visible moisture is wasteful of limited resource.
- **305.11.** Wind fences and restricting vehicle access should stand alone as an alternative or be removed, as it currently adds nothing to the rule. Subsection (b)(1) should clarify that water need only be applied to comply with opacity standard. As crafted, it could be interpreted to require application of water at all times. Current rule allows 8 months before permanent stabilization and allows use of water. We have not seen an analysis of emission reductions associated with the changes. Trespass by definition cannot be prevented. Reasonable precautions can be taken, and so 305.11(c)(4) should be rewritten as follows: “Take reasonable precautions to prevent access such as fences, ditches, vegetation, berms, or other barrier approved by the Control Officer.” MAG did not support any changes to current stabilization measures and none are warranted. Home Builders estimates this measure will cost \$2,000/unit.
- **305.12.** For fairness, rule should require easement holders to identify in their control plans the number of vehicles trips and provide a description of how speeds will be limited.
- **306.1.a.** Provision should be limited to exits designated in a dust control plan.

- **306.1.b.** Provision unnecessary. Definition of trackout control device identifies options, which also includes grizzlies. Additionally, please provide documentation concerning the emission reductions associated with paving an area 100 feet in length and 20 feet in width to reduce trackout. A reference to other rules without this supporting documentation is unhelpful and does not demonstrate how the proposal will reduce emissions, which is a required element of the 5% plan.
- **306.2.** Trackout requirement should remain 50 feet. MAG estimated costs originally at \$2,500,000/ton emissions reduced. Home Builders estimates that this measure will increase per unit costs approaching \$5,000. References to curbs, gutters, and sidewalks should be removed as inconsistent with the definition of area accessible to the public. “Immediately” should be defined, and tied to knowledge of individual who can take action to address. Subsection (b) is unnecessary, unclear, and could lead to duplicative enforcement.
- **307.** Provision is redundant and out of place given other rule revisions and therefore could lead to duplicative enforcement. Control measures are defined in Rule 305. This could be interpreted to require the continuous application of water even if not necessary to meet opacity, stabilization, or control measure requirements. As a result, it is both vague and overbroad.
- **308.** First, for fairness, block permit holders should be held to same requirement. After all, MCAQD has stated that it has difficulty identifying block permit holder permit violations. By imposing sign requirement, county could determine whether a block permit holder is responsible for any violations associated with open trenches. Second, original rule language concerning public readability is superior to revised language. It may be impossible for sites that have limited public access points to install a sign that the public can view and read “at all times.” This revision is unnecessary.
- **309/310.** These provisions need to be completely consistent with SB 1552. Latest draft does not include A.R.S. §49-474.05(H).
- **401.1.** Provision as crafted raises incorporation by reference concerns because the Dust Control Permit Application is not included in the rule. Rather than add more to the rule, we recommend that you simply note that application shall include applicant information, project information and a Dust Control Plan.
- **401.2.a.** Permittee cannot ensure that all persons, including trespassers and other unrelated third parties, comply with the permit.
- **401.2.b.** Supplying dust control plan and permit to all contractors and subcontractors, regardless of whether they conduct dust generating operations, is infeasible. A better approach would be for the subcontractor registration program to require that subcontractors be familiar with the dust control plans on the sites at which they operate.
- **401.2.c.** If no activities are occurring, what permit conditions would apply?
- **401.2.d.** Provision is not consistent with SB 1552.

- **401.3.** What is the purpose of this provision? It seems like it has the potential to add duplicative penalties.
- **402.3.b.(2).** Some sites do not have linear dimensions.
- **402.3.c.(3).** Reference should be to Sections 303 and 304, not 301.
- **402.3.c.(4).** Provision is redundant. Either remove here or remove references in other locations in the rule.
- **402.4(e).** “and/or” should be deleted so that phrase reads “where unpaved ~~and/or~~ access points”
- **402.4.** Provision is redundant, because dust control plan should reflect rule’s requirements. As drafted, this could lead to duplicative enforcement.
- **402.6.** Provision is redundant of 402.3(c)(2). One should be deleted.
- **403.2.a.** Revision should not be necessary if dust control plan requirements are not changed due to the change in acreage.
- **403.2.c.** Multiple parties are responsible for dust generating operations at various times. The phrase “and responsible for the dust generating operation change” should be deleted.
- **404.** Provision discriminates against private entities. All entities who meet the standards should be able to obtain a block permit.
- **406.** Provisions should make clear that permits are administratively continued when a timely renewal application has been submitted.
- **409.** Requirement for permit posting should be revised as follows: “be kept available on-site at all times during permitted activities” to eliminate potential for confusion.
- **410.** Given the breadth of new requirements, effective date should be June 30, 2008.
- **410.2.** Provision as drafted is not consistent with SB 1552, which does not contain “common control” language.
- **501.2(c).** Areas that have not been disturbed by the permittee should not be subject to permit requirements for stabilization.
- **502.1.** HBACA requests that the current rule language be retained. Additionally, subsections g and h are inconsistent with SB 1552.

- 503. HBACA requests that the current rule language be retained. Record retention length should be tied to permit term. If MCAQD wishes to issue permits for two years, then two year record retention would be appropriate. Additionally, as crafted, anyone who drives on a permitted site, including inspectors, would be required to maintain records.

Conclusion

The HBACA is extremely concerned about the economic consequences to adopting these costly measures when MCAQD has failed to quantify whether we will come into attainment or the actual reduction of dust benefitted by the rules changes (other than the dust coordinator and training). We have estimated that on average, these measures will cost \$11,740 per residential unit. *These are significant costs that WILL have an economic impact on the home building community while there is no proof that these additional costly measures are necessary for the 5% plan.*

The HBACA has been supportive of measures that increase compliance (the dust coordinator and training) which reduce the dust created by the home building industry by thousands of tons. In addition, the County has hired dozens of new inspectors and increased their inspection rates to eight inspections per year. This will also have a significant reduction in dust (yet to be identified by MCAQD). We would like the County to identify one other sector of the regulated community that is in agreement on these types of large reductions in our mutual goal of compliance with the CAA? It is the other additional costly measures that the HBACA strongly believes are unnecessary to reach compliance with the 5% plan.

Sincerely,

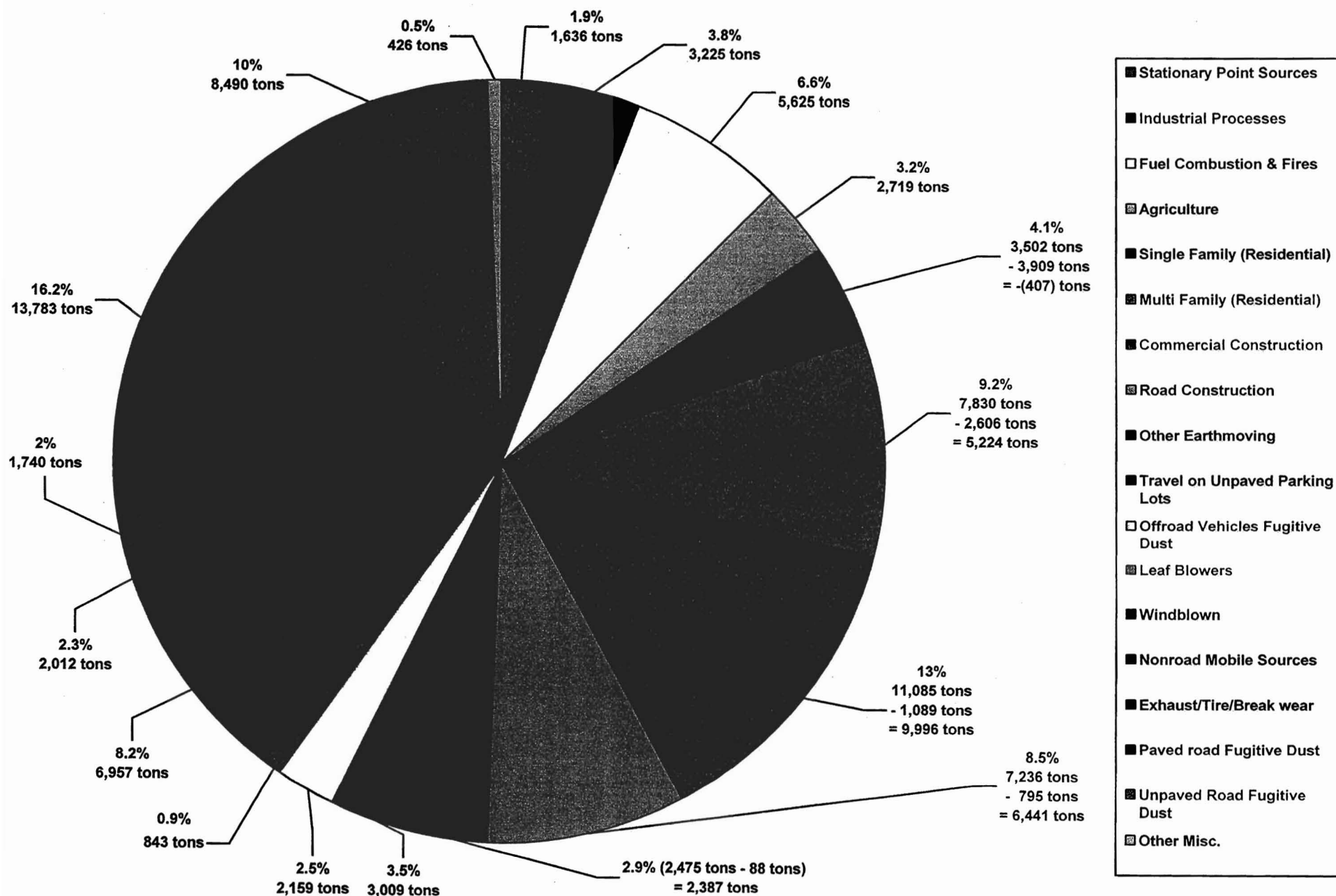
A handwritten signature in black ink, appearing to read "Spencer Kamps" followed by "For".

Spencer Kamps
Vice President of the HBACA

cc: Board of Supervisors
Fulton Brock
Don Stapley
Andy Kunasek
Max Wilson
Mary Rose Wilcox

EXHIBIT A

**Sierra Research / MAG Reductions for Training, Coordinator, Extra Water Trucks (4,238 tons needed)
Construction Reductions on Per Acres Basis (Total reduction = 8,487 tons)**



**Sierra Research / MAG #2, #3 & #4 estimates 8.9 ton per 50 – 166.99 acres (6 mo project); 26.7 ton per 167+ acre (6 mo project) No estimates for sites under 50 acres
So, 17.8 ton reduction (12 mo); 53.4 ton reduction (12 mo) SF Res (6 mo); MF Res (12 mo); Com (11 mo); Road (12 mo); Other (1 mo)*

KITCHELL ENVIRONMENTAL SERVICES

*Dust Cost Analysis
Proposed MAG and RULE 310 Measures*



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EXECUTIVE SUMMARY

Maricopa County currently does not meet the federal health standards set by the US Environmental Protection Agency (EPA) for ambient air concentrations of particulate matter, which includes dust or PM-10. Since 1990, when the EPA first designated Maricopa County as a Moderate Non-attainment Area for PM-10, the County has repeatedly failed to meet National Ambient Air Quality Standards (NAAQS). The County has not reached attainment in over 16 years and the last deadline for attainment was set at December 31st, 2006. In 2006 alone air quality monitors have exceeded the PM10 standard 21 times.

In 1991 and 1993, State Implementation Plans to ensure PM-10 compliance in non-attainment areas of Maricopa County were submitted to the EPA. However, since the Maricopa County non-attainment area failed to meet the National Ambient Air Quality Standards (NAAQS) by the original deadline of December 31st, 1994, Maricopa County was re-classified in 1996 as a Serious Area Non-Attainment for PM-10. Consequently, a new Serious Area plan for PM-10 was due to EPA by December 10th, 1997 and required Best Available Control Measures (BACM), as opposed to Reasonable Available Control Measures (RACM), and was to be implemented no later than June 10th, 2000. In addition to the State Implementation Plan (SIP), the EPA was obligated to issue a Federal Implementation Plan (FIP). This obligation resulted from the EPA being sued by the Arizona Center for Law in the Public Interest and winning in the 9th Circuit Court of Appeals for approving the (SIP) Arizona submitted to the EPA claiming it did not adequately address the PM10 problem. As a result EPA partially disapproved the Arizona 24-hour Standard PM-10 SIP revision. EPA found a deficiency in the basic controls used to reduce emissions from several fugitive dust sources resulting from a failure to implement Reasonably Available Control Measures (RACM). Under this court ordered consent decree, EPA was ordered to issue and implement a FIP; it was finalized in July 1998 for the Maricopa County PM- 10 non-attainment area and addressed the following five sources:

- Unpaved roads
- Unpaved shoulders
- Unpaved parking lots
- Vacant lots
- Agriculture

Modeling was then conducted by the Maricopa Association of Governments (MAG) and there studies indicated that the area could not attain the PM10 standard by the revised deadline date of December 31st, 2001 as required by the CAA. Fortunately, the CAA allows States the ability to request an extension for up to five years. This is only possible if the State can demonstrate the “new” plan includes the Most Stringent Measures (MSM) of any other State’s plan achieved in practice by any state, and can be feasibly implemented in the area. MAG’s consultant prepared a report analyzing the Most Stringent Measures from around the country and has identified a list of measures feasible for Maricopa County. From this list of measures, the Maricopa County Board of

Supervisors approved three key elements, which have been incorporated into the MAG Serious Area Plan. These are considered (BACM). The elements are:

- Improve compliance.
- Establish an education/outreach program.
- Allocate more funding.

These elements needed to be in place no later than June 10, 2000 as specified in the CAA. This was very important for Maricopa County and the State of Arizona as the State was under a sanction clock for 2 for 1 offsets. Sanctions would have been effective March 2nd, 2000 and would have impacted regional industries such as highway construction funding.

Future:

Maricopa County failed the deadline set for December 31st, 2006. The following actions are currently under way or potentially could happen as a result of the 16 years of non compliance with the National Ambient Air Quality Standards set by the EPA.

- 5% reductions on all PM10 sources
- Rule 310 becomes more stringent
- More Inspectors Hired
- Stiffer Enforcement Penalties

The following information addresses costs associated with implementing the proposed MAG measures and proposed RULE 310 changes. The cost analysis has been broken down into two distinct areas: 1) Cost for emission reductions based on the information supplied by MAG, 2) Cost for residential construction based on a per unit basis (40,000 units – as supplied by the HBACA).

Table of Contents:

- 1) Additional Costs Associated With Adding 2 ½ Water Trucks, 1 Water Truck, ½ Water Truck as Suggested by MAG Control Measure #2, #3 & #4.
- 2) Additional Costs Associated With Dust Control Coordinator Training as Suggested by MAG Control Measures #2, #3 & #4.
- 3) Additional Costs Associated With Track-out Clean-up - Proposed 25 Foot Limitation Rule, and MAG Control Measure #6.
- 4) Additional Costs Associated With Track-Out Control Device Maintenance – Proposed 25 Foot Limitation Rule and 30'x50'x3" Track-out Control Device Requirement, and MAG Control Measure #6.
- 5) Additional Costs Associated with Stabilization as Proposed by Maricopa County Draft Rule 310.
- 6) Additional Costs Associated With Conducting Stabilization Tests For Recordkeeping Purposes as per Maricopa County Draft Rule 310.

Additional Costs Associated With Adding 2 ½ Water Trucks, 1 Water Truck, ½ Water Truck as Suggested by MAG Control Measure #2, #3 & #4.

Water Truck Cost	= \$84 hr
Water Truck OT Cost	= \$95 hr
Truck Time	= 10 hr/day
2 ½ Additional Truck	
1) \$84 hr x 2.5 trucks x 40 hrs a week x 52 weeks a year	= \$436,800 year
2) \$95 hr x 10 hrs a week x 52 weeks a year x 2.5 trucks	= \$123,500 year
One Additional Truck	
1) \$84 hr x 40 hrs a week x 52 weeks a year	= \$176,800 year
2) \$95 hr x 10 hrs a week x 52 weeks a year	= \$49,400 year
½ Additional Truck	
1) \$84 hr x 25 hrs a week x 52 weeks a year	= \$109,200 year
TOTAL	
2 ½ Truck	= \$560,300 year
1 Truck	= \$226,200 / year
½ Truck	= \$109,200 year

** Assume 2 ½ Trucks for 167+ Acres, One Water Truck for 50 – 166.69 Acres & ½ Water Truck for 20 – 49.99 Acre, Sites smaller than 20 acres assumed not to need additional water truck. Assumed 75% of sites and acreage associated with Single Family Residential. **

Cost Per Residential Unit (167 Acres or Larger):

\$560,300 x (45 sites x 75% = 34 SF sites) (2005 Emissions Inventory) = \$19,050,200 year

Cost Per Residential Unit (50 – 166 Acres):

\$226,200 x (153 sites x 75% = 115 SF sites) (2005 Emissions Inventory) = \$26,013,000 year

Cost Per Residential Unit (49.99 - 20 Acres):

\$109,200 x (298 sites x 75% = 224 SF sites) (2005 Emissions Inventory) = \$24,460,800 year

TOTAL COST PER RESIDENTIAL UNIT:

\$19,050,200 + \$26,013,000 + \$24,460,800 / 40,000 Units = \$1,738 unit / year

Additional Costs Associated With Dust Control Coordinator Training as Suggested by MAG Control Measures #2, #3 & #4.

Dust Manager For Company (Environmental Manager)	= \$30 hr
Dust Manager Burden (Benefits, Workman Comp, Etc. @ 52%)	= \$15 hr
Training Class 4 hr	= \$250 per person
Dust Coordinator	= \$35 hr

Training Class for Coordinators
 1) \$35 hr x 6 hrs + \$250 x 0.402 (Capital Recovery Factor) = \$185 year

Training Class for Environmental Managers
 1) \$45 hr x 6 hrs + \$250 x 0.402 (Capital Recovery Factor) = \$210 year

** Assumed One Coordinator per project & One Environmental Manager Per Company**

** Assumed Water Operator to be paid for by Subcontractor*

** Assumed 75% of sites and acreage associated with Single Family Residential. **

Cost Per Environmental Manager (100 Managers Total):

\$210 year x 100 Managers = \$21,000 year

Cost Per Residential Unit (5 + Acres):

\$185 year x (938 sites x 75% = 704 SF Projects) = \$130,240 year

TOTAL COST PER RESIDENTIAL UNIT:

\$21,000 + \$130,240 / 40,000 Units = \$3.80 unit / year

EMISSIONS REDUCTIONS FOR TRAINING WATER TRUCKS

The MAG analysis assumes a 50 acre site would have an 8.9 ton reduction if training and an additional 1.0 water trucks were added. The compliance rate would increase from the baseline of 49% to approximately 70%. Our assumption is based on twelve (12) months so using the same compliance rate the tonnage reduction would be approximately 18 tons per 50 acre site.

The MAG analysis assumes a 167 acre site would have a 26.7 ton reduction if training and an additional 2.5 water trucks were added. The compliance rate would increase from the baseline of 49% to approximately 70%. Our assumption is based on twelve (12) months so using the same compliance rate the tonnage reduction would be approximately 53 tons per 167 acre site.

There were 115 Single Family (SF) sites between 50 acres and 166.99 acres, the total acreage of these sites based on the 2005 Emissions Inventory was 10,490 acres.

There were 34 Single Family (SF) sites 167 acres or larger, the total acreage of these sites based on the 2005 Emission Inventory was 12,774 acres.

Emission reductions were figured two ways based on the MAG Analysis and using their assumptions.

- 1) Tonnage Reduction was based on acreage of the site so on sites 50 acres to 166.99 acres (10,470 acres) there is assumed an 18 ton reduction (12 months) per 50 acres. On sites 167 acres (12,774 acres) or larger there is an assumed 53 ton reduction (12 months) per 167 acres. This results in the "Best Case" Emission Reduction for Single Family (SF) sites.
- 2) Tonnage Reduction was based on number of sites, so there were 115 sites between 50 acres and 166.99 acres resulting in an 18 ton reduction (12 months) per site. There were 34 sites 167 acres or larger resulting in a 53 ton reduction (12 months) per site. This results in the "Worse Case" Emission Reduction for Single Family (SF) sites.

This analysis does not take into account the Single Family (SF) sites smaller than 50 acres or approximately (10,000 acres).

Based on the "Best Case" and "Worse Case" scenarios, and using the MAG analysis and assumptions the Emission Reductions of Single Family (SF) sites will result in a negative net effect. Single Family (SF) emissions would be zero.

EMISSIONS REDUCTIONS FOR TRAINING AND ADDITIONAL WATER TRUCKS:

50 Acre Site: Training + One Additional Water Truck	= 8.9 ton / 50 ac (6 Mo) = 18 ton / 50ac (12 Mo)
167 Acre Site: Training + 2 ½ Additional Water Trucks	= 26.7 ton / 167 ac (6 Mo) = 53 ton / 167ac (12 Mo)

C/E Ratio (\$/ton):

Same as the MAG Emissions Inventory

Residential Emission Reductions Based on MAG & Maricopa County Statistics:

Total Projects 50 – 166.99 Acres Needing 1 Additional Truck	= 115 SF sites
Total Acres Disturbed for Projects 50 – 166.99 Acres Needing 1 Additional Truck	= 10,490 acres
Total Projects 167+ Acres Needing 2 ½ Additional Water Trucks	= 34 SF sites
Total Acres Disturbed for Projects 167+ Acres Needing 2 1/2 Additional Trucks	= 12,774 acres

A)

1) 115 SF sites = (10,490 acres x 18 ton reduction per 50 acres)	= 3,776 ton reduction per year
2) 34 SF sites = (12,774 acres x 53 ton reduction per 167 acres)	= 4,054 ton reduction per year
Total:	= 7,830 ton reduction per year

OR

B)

1) 115 SF sites x 18 ton reduction per site	= 2,070 ton reduction per year
2) 34 SF sites x 53 ton reduction per site	= 1,802 ton reduction per year
Total:	= 3,872 ton reduction per year

Emission Reductions are Based on MAG Assumptions for a 50 and 167 Acre Project.

HBACA Reductions Assumed Based on A) Total Acreage and B) Total sites to Give a Best and Worse Case Scenario.

Assuming 80% Compliance Versus 70% Compliance

If the compliance rate for training and increased water trucking were to bring sites to 80% versus the suggested 70%, then tonnage reductions for Single Family (SF) sites would increase, thus further causing a “negative” in emission reductions.

All variable stay the same for number of sites and acreage, the only change is the tonnage reductions. At 80% compliance the tonnage reductions for 50 acre sites goes to 13.38 tons (6 months job) / 26.75 tons (12 month job) and 167 acre sites go to 41.3 tons (6 month job) / 82 tons (12 month job).

Assuming 80% Compliance Versus 70% Compliance

EMISSIONS REDUCTIONS FOR TRAINING AND ADDITIONAL WATER TRUCKS:

50 Acre Site: Training + One Additional Water Truck	= 13.38 ton / 50 ac (6 Mo) = 26.75 ton / 50ac (12 Mo)
167 Acre Site: Training + 2 ½ Additional Water Trucks	= 41.3 ton / 167 ac (6 Mo) = 82 ton / 167ac (12 Mo)

C/E Ratio (\$/ton):

Same as the MAG Emissions Inventory

Residential Emission Reductions Based on MAG & Maricopa County Statistics:

Total Projects 50 – 166.99 Acres Needing 1 Additional Truck	= 115 SF sites
Total Acres Disturbed for Projects 50 – 166.99 Acres Needing 1 Additional Truck	= 10,490 acres
Total Projects 167+ Acres Needing 2 ½ Additional Water Trucks	= 34 SF sites
Total Acres Disturbed for Projects 167+ Acres Needing 2 1/2 Additional Trucks	= 12,774 acres

A)

1) 115 SF sites = (10,490 acres x 26.75 ton reduction per 50 acres)	= 5,612 ton reduction per year
2) 34 SF sites = (12,774 acres x 82 ton reduction per 167 acres)	= 6,272 ton reduction per year
Total:	=11,884 ton reduction per year

OR

B)

1) 115 SF sites x 26.75 ton reduction per site	= 3,076 ton reduction per year
2) 34 SF sites x 82 ton reduction per site	= 2,788 ton reduction per year
Total:	= 5,864 ton reduction per year

Emission Reductions are Based on MAG Assumptions for a 50 and 167 Acre Project. But 80% Compliance Rate Versus the 70% Compliance Rate.

HBACA Reductions Assumed Based on A) Total Acreage and B) Total sites to Give a Best and Worse Case Scenario.

MAG CONTROL MEASURES #6

April 18th, 2007 Report

These costs are not figured using the MAG Analysis of Particulate Control Measure Cost Effectiveness & Appendix dated April 18th, 2007, as their costs are based on linear footage swept, and this is not how sweeping costs are figured for Single Family (SF) sites.

The difference in this cost analysis and MAG's is how sweeping costs are figured. This cost analysis is broken into four parts. 1) The cost for one additional sweep per day with a PM10 compliant street sweeper 2) The cost of one additional sweep per day with a PM10 compliant street sweeper, supplemented by 8 hrs of Labor sweeping 3) The cost for two additional sweeps per day with a PM10 compliant street sweeper 4) The cost for two additional sweeps per day with a PM10 compliant street sweeper, supplemented by 6 hrs of Labor sweeping.

It is assumed all 1945 Single Family (SF) sites based on the 2005 Emissions Inventory would need to comply with the 25 foot track-out standard and drag-out standard (visible property line emissions).

Compliance with the 25 foot track-out standard would at a minimum require one extra sweep per day with a PM10 compliant street sweeper or one extra sweep supplemented by 8 hrs of labor sweeping based on MAG's assumption of a 10 hour day.

Compliance with the drag-out (visible property line emissions) would require extra watering near site entrance / exits resulting in more sweeping to stay in compliance with the 25 foot track-out provision. At a minimum two additional sweeps with a PM10 compliant sweeper would be required or two additional sweeps supplemented by 6hrs of labor sweeping based on MAG's assumption of a 10 hour work day.

All construction sweeping has a mandatory 2 hour minimum per sweep or there are travel charges, fuel surcharges, etc. associated with the sweeping for Single Family (SF) sites. It is cheaper to pay a two hour minimum then pay for the sweeping plus the additional charges.

Compliance with the 25 foot track-out standard and drag-out standard (visible property line emissions) will also require constant refreshing of the track-out control device. With size requirements of a track-out control device being dictated, costs associated with maintenance of the track-out control device also need to be figured into the cost associated with 25 foot track-out and drag-out (visible property line emissions).

Additional Costs Associated With Track-out Clean-up - Proposed 25 Foot Limitation Rule, and MAG Control Measure #6.

Street Sweeper Cost (2 hr minimum)	= \$85 hr (\$170 hr)
Labor Cost	= \$12 hr
Assumed Work Day	= 10 hrs

One Additional Sweep Per Day	
1) \$170 sweep x 5 days x 52 weeks a year	= \$44,200 year

Labor Cost Per Day	
1) \$12 hr x 8 hrs x 5 days x 52 weeks a year	= \$24,960 year

Two Additional Sweeps Per Day	
1) \$170 sweep x 2 sweeps x 5 days x 52 weeks a year	= \$88,400 year

Labor Cost Per Day	
1) \$12 hr x 6 hrs x 5 days x 52 weeks a year	= \$18,720 year

TOTAL

One Extra Sweep Per Day & 8 hrs Labor	= \$69,160 year
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Two Extra Sweeps Per Day & 6 hrs Labor	= \$107,120 year
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** It is assumed all sites will have to comply with the 25 foot track-out limitation. Assumed 75% of sites and acreage associated with Single Family Residential with one Access point per project, staying consistent with MAG assumptions. **

Cost Per Residential Unit (One Sweep / One Sweep & Day Labor):

\$44,200 year x (2594 x 75% = 1945 SF sites) (2005 Emissions Inventory)	= \$85,991,100 year
\$69,160 year x (2594 x 75% = 1945 SF sites) (2005 Emissions Inventory)	= \$134,516,200 year

Cost Per Residential Unit (Two Sweeps / Two Sweeps & Day Labor):

\$88,400 year x (2594 x 75% = 1945 SF sites) (2005 Emissions Inventory)	= \$171,938,000 year
\$107,120 year x (2594 x 75% = 1954 SF sites) (2005 Emissions Inventory)	= \$209,312,480 year

TOTAL COST PER RESIDENTIAL UNIT:

One Sweep:

\$85,991,100 / 40,000 Units	= \$2,150 unit / year
\$134,516,200 / 40,000 Units	= \$3,363 unit / year

Two Sweeps:

\$171,938,000 / 40,000 Units	= \$4,298 unit / year
\$209,312,480 / 40,000 Units	= \$5,233 unit / year

**Additional Costs Associated With Track-Out Control
Device Maintenance – Proposed 25 Foot Limitation Rule
and 30'x50'x3" Track-out Control Device Requirement,
and MAG Control Measure #6.**

Cost of Gravel	= \$500
Bobcat Cost	= \$80 hr
Operator Cost	= \$32 hr

Once a Week Maintenance of Gravel Pad

1) \$112 hr x 4 hr minimum + \$500 x 52 weeks a year	= \$49,296 year
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** It is assumed all sites will have to comply with the 25 foot track-out limitation and requirement of 30' x 50' x 3" gravel pad at all times on sites 1 acre or larger **

Cost Per Residential Unit (Sites 1 Acre or Larger):

\$49,296 year x (1372 x 75% = 1029 SF sites) (2005 Emissions Inventory)	= \$50,725,584 year
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TOTAL COST PER RESIDENTIAL UNIT:

Once a Week Maintenance:

\$50,725,584 / 40,000 Units	= \$1,268 unit / year
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This Cost does not include the installation of the initial gravel pad.

EMISSIONS REDUCTIONS FOR TRACK-OUT

The MAG analysis assumes 0.11 tons of reduction per access point swept. MAG used the assumption there is one access point per project. Based on the 2005 Emissions Inventory there were 5500+ earthmoving permits so + or – 605 ton reduction associated with sweeping an access point.

This analysis assumed one access point to be swept on sites .10 acres to 49.99 acres, two access points on sites 50 acres to 166.99 acres and three access points on sites 167 acres or larger, for a total of 2129 access points needing to be swept.

EMISSIONS REDUCTIONS FOR TRACK-OUT:

MAG Emission Reduction Assumed Per Access Point = 0.11 ton / year

C/E Ratio (\$/ton):

One Sweep:

\$44,200 / 0.11 tons / year = \$401,818 per ton

\$69,160 / 0.11 tons / year = \$628,727 per ton

Two Sweeps:

\$88,400 / 0.11 tons / year = \$803,636 per ton

\$107,120 / 0.11 tons / year = \$973,818 per ton

Gravel Pad:

\$49,296 / 0.11 tons / year = \$448,145 per ton

Residential Emission Reductions Based on MAG & Maricopa County Statistics:

Total Projects .10 – 49.99 Acres – One Access Point = 1797 sites

Total Projects 50 – 166.99 Acres Needing 2 Access Points = 115 sites

Total Projects 167+ Acres Needing 3 Access Points = 34 sites

Total Site Exits = 1797 + (115 x 2) + (34 x 3) x 0.11 ton reduction = **234 ton reduction**

MAG Assumption was 0.11 ton reduction per access point, using the above guidelines for assumed access points total SF access points is 2129 access points.

MAG CONTROL MEASURES #10

April 18th, 2007 Report

These costs are not figured using the MAG Analysis of Particulate Control Measure Cost Effectiveness & Appendix dated April 18th, 2007, as MAG provided no cost analysis for this proposed control measure.

This cost analysis takes into account costs associated with Just in Time Grading and the Stabilization efforts being asked of the Single Family (SF) sites. Two numbers have been shown as to the benefits of Just in Time Grading; the two numbers are 680 ton reduction and 800 ton reduction for construction sites. This averages to a 740 ton reduction.

This measure is largely based on acreage. Single Family (SF) sites are responsible for approximately 50% of all disturbed acreage based on the 2005 Emissions Inventory yet the same inventory has Single Family (SF) sites only responsible for 4% of the entire Emissions Inventory. Therefore 50% of the tonnage reduction for this proposed measure (340 – 400 tons) will come from Single Family (SF) sites, yet they are only responsible for 4% of the Emissions Inventory.

Costs were figured using three different medias 1) Asphalt – Pavement 2) Gravel – ½ inch rock 3) Dust Suppressants, and based on two assumptions of disturbance needing stabilization 1) One-half of all acres and 2) One-third of all acres.

Maricopa County is also revising Rule 310 and is requiring the permit holder be responsible for conducting stabilization tests to prove they are in compliance with the rule, so the cost of Just in Time Grading will also include conducting stabilization tests on areas. Costs for this were figured 1) Weekly recordkeeping at a minimum 2) Daily recordkeeping as the Rule actually dictates.

It is assumed all 1945 Single Family (SF) sites will have to comply with some component of this measure.

Additional Costs Associated with Stabilization as Proposed by Maricopa County Draft Rule 310.

Pavement Cost	= Millions
Gravel Cost	= \$20 / ton
Suppressant Cost	= \$1,000 / acre
Total Residential (SF) Acres Disturbed (2005 Emissions Inventory)	= 32,632 acres

Pavement Cost

1) Unrealistic as it Costs \$1,000,000 per mile

Gravel Cost

1) \$20 / ton x 354 tons per acre (2" thick) x (32,632 acres x 0.5) (stabilized)	= \$115,517,280 year
2) \$20 / ton x 354 tons per acre (2" thick) x (32,632 acres x 0.33) (stabilized)	= \$76,241,404 year

Suppressant Cost

1) \$1,000 / acres x (32,632 acres x 0.5) (stabilized)	= \$16,316,000 year
2) \$1,000 / acres x (32,632 acres x 0.33) (stabilized)	= \$10,768,560 year

** Pavement Assumed Unrealistic, Gravel Assumed as a One Time Application, Suppressants Assumed to be a Minimum of Four Applications Per Year (Once per Quarter – due to degrading of material and traffic). **

Cost Per Residential Unit (Pavement):

Unrealistic Costs

Cost Per Residential Unit (Gravel):

1) \$115,517,280 / 40,000 Units	= \$2,888 unit / year
2) \$76,241,404 / 40,000 Units	= \$1,906 unit / year

Cost Per Residential Unit (Suppressants):

1) \$16,316,000 x four applications per year / 40,000 units (1/2 of all acres)	= \$1,631 unit / year
2) \$10,768,560 year x four applications per year / 40,000 units (1/3 of all acres)	= \$1,076 unit / year

**Additional Costs Associated With Conducting
Stabilization Tests For Recordkeeping Purposes as per
Maricopa County Draft Rule 310.**

Outside Consultant = \$125 hr

Conducting Stabilization Tests

1) \$125 hr x 4 hr minimum (once a week) x 52 weeks = \$26,000 year

2) \$95 hr x 4 hr minimum x 5 days a week x 52 weeks = \$98,800 year

** In Order to Comply with Recordkeeping Requirements Regarding Stabilization Test Using Appendix C, it is Assumed Test Would be Conducted a Minimum of Once a Week and a maximum of Daily **

Cost Per Residential Unit (Suppressants):

1) \$26,000 x (2594 x 75% = 1945 SF sites) / 40,000 units **= \$1,264 unit / year**

2) \$98,800 x (2594 x 75% = 1945 SF sites) / 40,000 units **= \$4,804 unit / year**

EMISSIONS REDUCTIONS FOR JUST IN TIME GRADING

The average tonnage reduction for Single Family (SF) sites is approximately 370 tons; this assumption is based on the fact that Single Family (SF) sites are responsible for 50% of the 2005 Emissions Inventory Acreage.

The more acres stabilized the lower the cost effectiveness of this measure, this measure proves to have the least reduction of tonnage of any of the other suggested control measures by MAG. 1) Training and Additional Water Trucks Highest (18 tons – 53 tons per year) 2) Track-out (0.11 tons per access point) 3) Just in Time Grading (0.023 – 0.034 tons per year).

EMISSIONS REDUCTIONS FOR JUST IN TIME GRADING / 30 DAY STABILIZATION:

ADEQ Emission Reduction Assumed	= 680-800 tons / yr = 740 tons / yr (avg.)
ADEQ Assumed 25% of disturbed acreage would be affected by this measure	
Acreage in 2005 Emissions Inventory	= 63,652 Ac
SF Residential	= ~50% (32,632 Ac)
SF Residential Emission Reduction (740 tons x 50%)	= 370 tons / year
Emission Reduction (50% & 33% Un-Stabilized)	
370 tons / year divided by (32,632 acres x 50%)	= 0.023 tons per acre reduction
370 tons / year divided by (32,632 acres x 33%)	= 0.034 tons per acre reduction

C/E Ratio (\$/ton) – Assumption of 50 Acre Site:

50% of site Un-Stabilized:

\$1,000 x (50 acres x 50%) / 0.023 ton reduction = \$1,086,956 per ton

33% of site Un-Stabilized:

\$1,000 x (50 acres x 33%) / 0.034 ton reduction = \$485,295 per ton

The cost of gravel would be even higher than the suppressants.

**Additional Costs Associated With Continuous Monitoring
on Sites Over 50 Acres as per Maricopa County Draft
Rule 310 & MAG Measure #11**

Monitoring Cost = \$9,128 per month

Cost Per Residential Unit (Suppressants):

1) $\$9,128 \times (149 \text{ SF sites } 50 \text{ acres or larger}) \times 12 \text{ months} / 40,000 \text{ units}$ **= \$410 unit / year**

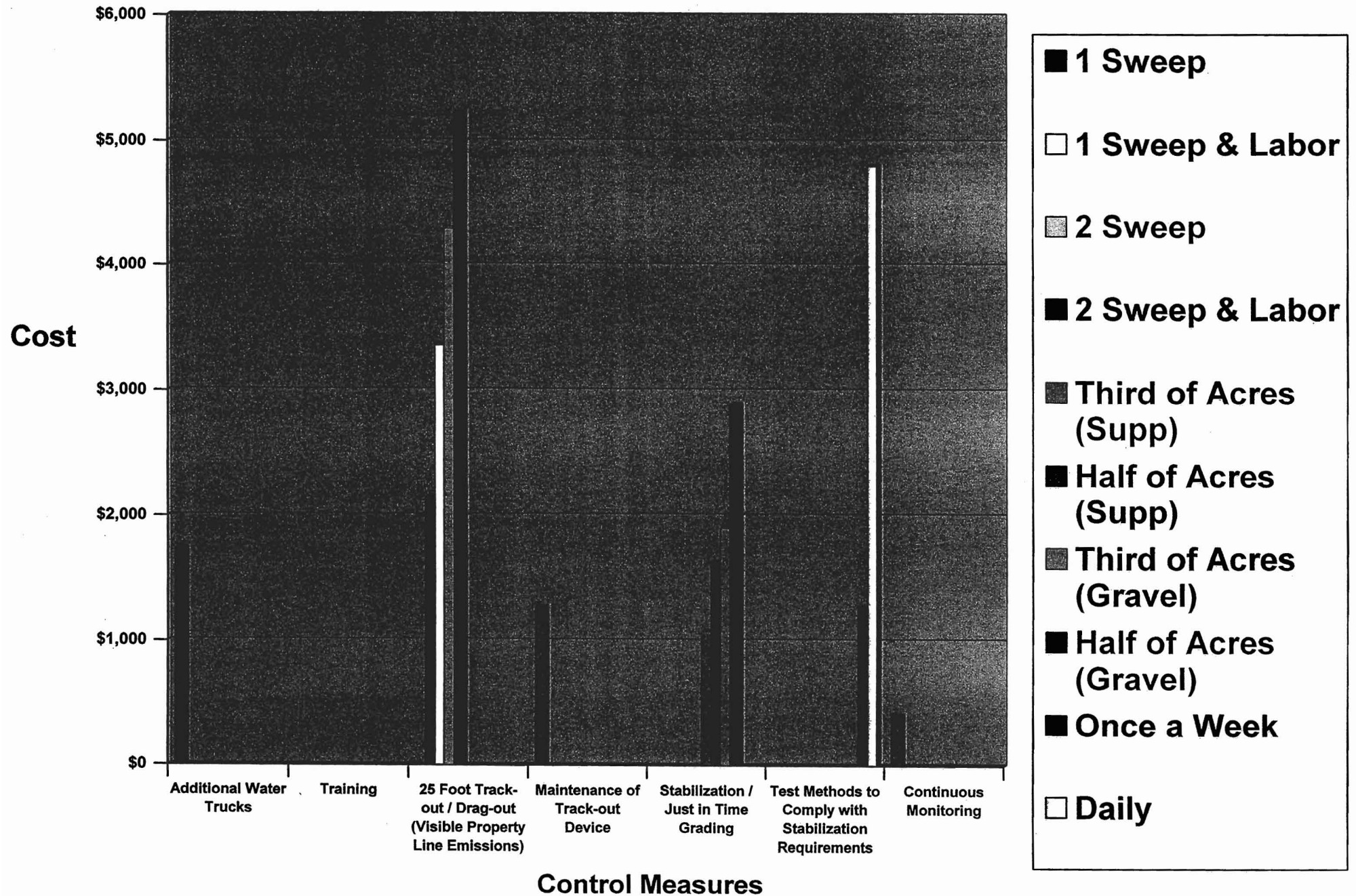
Tonnage Reduction:

MAG has assumed a 7.7 ton reduction for this control measure on a 50 acres site with the use of Continuous Monitoring and 1.0 Additional Water Trucks.

The Training and 1.0 Additional Water Trucks from Control Measure #2 resulted in an 8.9 ton reduction per 50 acre site based on the MAG assumption.


By MAG's own admission based on Control Measures #2 and #11, there are more benefits from conducting Training / Education and adding 1.0 additional water trucks versus continuous monitoring and adding 1.0 additional water trucks. There is a 1.2 ton reduction per 50 acre site in implementing Control Measure #2 over Control Measure #11.

Additional Cost Per Closed Unit (Average \$11,740)



MEMORANDUM

To: Home Builders and AGC

From: Jim Wilson, Maureen Mullen, and Ying Hsu 

Date: February 22, 2007

Subject: Maricopa County, Arizona Nonattainment Area, 2005 Periodic Emissions Inventory for PM-10 Review Comments

This memorandum provides our comments on the Maricopa County, Arizona Nonattainment Area 2005 Periodic Emission Inventory for PM-10 draft that was released in January 2007 by the Maricopa County Air Quality Department (MCAQD). This review focuses on the PM-10 emitting source categories with the largest emission quantities in the draft 2005 emission estimates. Our comments are organized by source category.

Construction Emissions

The basic approach used by MCAQD to estimate 2005 construction activity PM-10 emissions is to develop estimates of affected acreage by type of activity, and then to apply standard emission factors and average project durations by project type along with estimates of the effectiveness of existing fugitive dust control rules to estimate controlled 2005 emissions. This approach is a standard one for this source category, with some similarities to the methods used by EPA for its National Emissions Inventory. MCAQD uses estimates of acres permitted for construction during 2005, which is an improvement over some approaches which are based on the dollars spent on construction projects. Overall, Pechan has three concerns about the construction activity PM-10 emission estimates in the 2005 MCAQD Inventory:

1. There is a computational error in the site preparation/land development emission estimate that results in the emissions for the Maricopa County portion of the PM-10 nonattainment area for this project type being overestimated by 2,110 tons per year. The total acre-months in Table 3.3-20 for site prep/land development should be 4,905.6, not 39,244.6. The controlled PM-10 estimate should be 301.6. Table 1 provides a revised version of Table 3.3-20 with corrected values for site prep/land development.

**Table 1. Maricopa County PM-10 Nonattainment Area –
MCAQD 2005 Construction Emission Estimates
Table 3.3-20 with Pechan Corrections**

Project Type	Total Acres	Duration Months	Total Acre Months	EF Tons/Acre-Month	Uncontrolled PM	Controlled PM-10	PM-2.5
Residential: Single Family	32,632	6	195,790	0.032	6,265	3,502	350
Residential: Multi-Unit	10,877	12	130,526	0.11	14,358	8,026	803
Commercial	9,740	11	107,143	0.19	20,357	11,380	1,138
Road Construction	4,199	12	50,390	0.42	21,164	11,831	1,183
Trenching	451	1	451	0.11	50	28	3
Demolition	581	1	581	0.11	64	36	4
Weed Control	178	1	178	0.11	20	11	1
Site Prep/Land Development	4,906	1	4,906	0.11	540	302	30
Temporary Storage Yard	89	12	1,072	0.11	118	66	7
Totals	63,652				62,935	35,181	3,518

- The 2005 MCAQD Inventory applies an emission factor of 0.42 tons/acre-month to estimate road construction emissions. This value was selected based on information from the WRAP Fugitive Dust Handbook, which advises that a 0.42 tons/acre-month emission factor be used for worst case conditions. It is not clear from the information presented by MCAQD in its report why a worst case conditions emission factor was deemed appropriate for road construction in this geographic area. For its 2002 PM-10 emission inventory, a 0.11 tons/acre-month emission factor was applied to estimate uncontrolled road construction emissions. This emission factor change alone produces a 281 percent higher PM-10 emission estimate for road construction than was estimated for the 2002 calendar year. This emission factor selection seems unjustified without evidence being presented by MCAQD for its selection.

Pechan reviewed recent PM-10 emission calculations performed by the South Coast Air Quality Management District, where it is estimated that 25 percent of road construction is at the 0.42 tons/acre-month emission rate and 75 percent is at the 0.11 tons/acre-month rate, which is a net emission factor of 0.1875 tons/acre-month. It is suggested that MCAQD consider using the SCAQMD assumptions in its road construction emission estimates to estimate uncontrolled PM-10 emissions. Making this revision would change the road construction controlled PM-10 emission estimate in Table 3.3-20 to 5,281 from 11,831 tons per year, a reduction of 6,550 tons. This would change the Table 1 corrected PM-10 controlled emission estimate to 28,631 tons per year (from 35,181 tons per year).

- One of the key variables in the controlled PM-10 emission estimate for road construction is the estimated rule effectiveness. Rule effectiveness in this case is a measure of the Rule 310-Fugitive Dust compliance rate in the area. The rule effectiveness guidance available from EPA during the 1990s suggested that a default rule effectiveness assumption of 80 percent be used in most cases to estimate compliance rates in cases where data were not available to estimate this value quantitatively. More recent guidance from EPA removes the previous recommendation for use of an across the board 80 percent default value. EPA's revised rule effectiveness guidance provides inventory preparers with lists of factors that are most likely

to affect RE and ranks these factors in a priority order. For nonpoint sources like construction activity, EPA provides three ranges: 86 to 100 percent, 70 to 85 percent and below 70 percent with associated importance factors to use in determining the appropriate RE to apply.

As part of its 2005 inventory development, MCAQD performed its own RE study to quantify compliance with the fugitive dust rules in the Maricopa County air quality regulatory program. One portion of this RE study examined earthmoving sources. For the earthmoving site RE study, site inspections were performed for 63 sites. MCAQD used the information from these special site visits to assign each site as either being fully compliant (100% RE) or non-compliant (0% RE or uncontrolled). The MCAQD RE study for earthmoving sites found that 31 of 63 inspected sites with no emission violation, and 32 of 63 with observed violations. This information was used to compute an overall RE value of 49 percent, which was used in the PM-10 emission calculations for this source category.

Pechan staff reviewed the inspection results for all of sites that either received a Notice to Correct (NTC) or a Notice of Violation (NOV) and matched that information with the applicable project types, which were described in the inspection reports as not being fully compliant with Rule 310. We then made judgments about which emission sources within the site were uncontrolled and adjusted only those sources. This resulted in a scoring system that assigned values in between zero and 1 when warranted by the information provided by the site inspectors. Table 2 shows how the site inspection reports were evaluated. The columns in this table are the site inspection report numbers. For each site inspection, the letters V and C are used in Table 2 to indicate the source type (project type) associated with any violation (V) or notice to correct (C). There were three sites with notices of violation that indicated widespread violations to the extent that the site was deemed fully uncontrolled (site numbers 609071, 609005, and 609007). For all other sites, the PM-10 emission rates were estimated to be uncontrolled at the sites where either a V or a C is indicated in that row. As an example, if 10 sites had a V or C for site prep/land development, then the RE was estimated to be $10/63$ times zero plus $53/63$ times 100 percent, or 84 percent. The denominator of 63 is the total number of earthmoving sites inspected during the MCAQD RE study. In this way, a rule effectiveness value is computed for each project type. Then, that project type-specific RE value is used to estimate 2005 emissions consistent with the methods employed by MCAQD in section 3.3.9 Construction of the 2005 Periodic PM-10 Emission Inventory.

Pechan's revised PM-10 emission estimates for the construction category using the above methods are provided in Table 3. Pechan's revised PM-10 emission estimate for construction activity in Table 3 is 10,059 tons per year, significantly lower than the MCAQD reported value. (This table uses the higher 0.42 tons/acre-month emission factor for road construction.) If the lower SCAQMD composite emission factor of 0.1875 were used, this would change the resulting construction activity PM-10 estimate to 7,882 tons per year.

Because the information in the rule effectiveness study inspection reports is organized by Rule 310 section rather than by emissions generating sub-category, an alternate analysis was performed where the NOVs and NTCs were organized by the Rule 310 sections. This analysis is

shown in Table 4. This table was constructed by taking the information in the rule effectiveness study inspection reports and noting wherever the report said that a specific rule NOC or NTC occurred. The level-of-detail provided in Table 4 for the Rule 310 requirements is designed to match the level-of-detail provided in the inspection reports.

Table 5 summarizes the results of this alternate analysis. Table 5 summarizes the total NOV plus NTCs by rule number as well as the occurrences of NOVs and NTCs separately. Then, in the right-most columns of this table, the number of occurrences is used to compute a non-compliance rate for each rule number that had an NOV or an NTC. For example, Table 5 shows that about 8 percent of inspected sites had either an NOV or an NTC for the opacity limits for dust generating operations (Section 301 of Rule 310). Therefore, for this specific section of Rule 310, the rule effectiveness survey showed a 92 percent compliance rate, and an 8 percent non-compliance rate.

For the eight rule sections in Table 5 where there were one or more NOVs/NTCs, the non-compliance rates were averaged to estimate an overall non-compliance rate of 13 percent. The non-compliance rates by rule section range from a low of 1.5 percent for unpaved haul/access piles to a high of 27 percent for stabilization. This average rule effectiveness value of 87 percent (13 percent non-compliance) computed using this alternate methodology is very close to the 84 percent estimate provided above, and serves as confirmation of the revised PM-10 emission estimates provided in the right-most column in Table 3.

Windblown Dust

Any calculation of 5 percent per year emission reductions for the PM-10 nonattainment area should use an average, or typical year emission estimate for windblown dust emissions, so more information is needed in the ENVIRON analysis, or the body of the report, about the representativeness of the PM-10 emission estimate computed using 2005 meteorological data. One of the weaknesses of the windblown dust inventory model application is the lack of accounting for rainfall (page 2-8 of Appendix 3-3). In addition, it is suggested that daily PM-10 emissions be presented in the appendix for the specific days when wind speeds exceeded 20 miles per hour and there were positive emissions for this source type. The 2005 windblown dust emissions estimate for the PM-10 nonattainment area is 1,086 tons per year.

Another concern with the approach used by ENVIRON is its suitability for estimating windblown dust PM-10 emissions for an analysis of this geographic scale. The RMC windblown dust model "is designed to estimate fugitive windblown dust emissions for regional air quality modeling." Is the model valid for smaller scale applications like this one where the relative accuracy of the estimate is more important? Has the model been validated for PM-10? It seems likely that this model has been designed primarily to estimate fine particulate windblown dust emissions over large geographic regions and may not be a good predictor of PM-10 emissions for a State Implementation Plan/regulatory analysis.

The ENVIRON report also lacks clarity in describing how the emission calculations were performed for each land use type, which makes it difficult to determine whether the emission estimates are correct. For example, page 2-9 of the ENVIRON report discusses surface

disturbance assumptions used in the windblown dust model that conflict with what is said later in the report on page 4-3. Some of the key assumptions mentioned on page 4-3, like those about the fraction of barren lands that are disturbed (30 percent) and the fraction of shrublands that are disturbed (8 percent) are provided with no back-up information. These assumptions and the assumptions about threshold friction velocities have a substantial effect on resulting emission estimates by land use type and should be justified and referenced.

In the end analysis, ENVIRON estimates PM-10 emissions for just four land use types: (1) agricultural lands, (2) grassland, (3) shrubland, and (4) barren lands. Urban lands are estimated to have no windblown dust emissions. When the relationship between land area, land use type and PM-10 emissions is compared (Table 3.3 and Table 5-3), the relative PM-10 emission strengths (in tons per square kilometer) are: barren land (1.14 tons per square km), shrubland (0.25 tons per square km), and agricultural land (0.0078 tons per square km).

**Table 2. Maricopa County Nonattainment Area Portion
Construction Rule Effectiveness Survey Analysis**

Project Type/Inspection Report No.	609073	609071	609005	609007	609024	607469	609018	605739	605740	605749	607450	607448	609074	609003	609027	607473	609030
Residential: Single Family		V	V	V													
Residential: Multi-Unit		V	V	V													
Commercial		V	V	V													
Road Construction		V	V	V			V	V	V								
Trenching		V	V	V													
Demolition		V	V	V													
Weed Control		V	V	V													
Site Prep/Land Development	V	V	V	V	V	V		V		V	V	V	V		C		
Temporary Storage Yard	V	V	V	V	V			V		V	V	V				C	
Trackout		V	V	V	V				V	V	V		V	C		C	
Opacity		V	V	V													

Project Type/Inspection Report No.	609022	609023	609015	609069	609068	605731	605735	605737	605746	605745	605744	607444	607476	607449	607447
Residential: Single Family															
Residential: Multi-Unit															
Commercial															
Road Construction															
Trenching															
Demolition															
Weed Control															
Site Prep/Land Development															
Temporary Storage Yard				C			C	C	C	C	C		C	C	C
Trackout					C	C	C		C	C			C	C	C
Opacity			C						C			C			

Note: V = violation, C = notice to correct

**Table 3. Maricopa County PM-10 Nonattainment Area – MCAQD 2005 Construction Emission Estimates
with Pechan's RE Study Analysis Changes**

Project Type	Total Acres	Duration Months	Total Acre Months	EF Tons/ Acre-Month	Uncontrolled PM	Controlled PM-10	PM-2.5	NOV/NOC Count	Pechan PM-10
									From RE Study
Residential: Single Family	32,632	6	195,790	0.032	6,265	3,502	350	3	895
Residential: Multi-Unit	10,877	12	130,526	0.11	14,358	8,026	803	3	2,051
Commercial	9,740	11	107,143	0.19	20,357	11,380	1,138	3	2,908
Road Construction	4,199	12	50,390	0.42	21,164	11,831	1,183	6	3,930
Trenching	451	1	451	0.11	50	28	3	1	6
Demolition	581	1	581	0.11	64	36	4	3	9
Weed Control	178	1	178	0.11	20	11	1	3	3
Site Prep/Land Development	4,906	1	4,906	0.11	540	302	30	21	216
Temporary Storage Yard	89	12	1,072	0.11	118	66	7	17	40
Totals	63,652				62,935	35,181	3,518		10,059

Table 4. Construction Rule Effectiveness Survey Analysis

Fugitive Dust Rule 310		Project Type/Inspection Report Number	609073	609071	609005	609007	609024	607469	609018	605739	605740	605749	607450	607448	609074	609003	609027	607473
Standards																		
301	Opacity Limitation				V	C		V										
302	Stabilization Requirements					C			V	V	V		V	V			C	
306	Control Measures							V	V	V	V	V	V	V	C			
308	Work Practices																	
308.1	Bulk Material Hauling—Off Site																	
308.2	Bulk Material Hauling—On Site																	
308.3.a	Ineffective Trackout Control Device	V	V	V	V	V						V			C	C		C
308.3.b	Trackout Beyond 50 Ft	V			C						C				C	C		
308.4	Unpaved Haul/Access Roads											V						
308.6	Stockpiles Dry And Silty				V	C			V			V		V				C
308.7	Soil Moisture		V					V					V					

Fugitive Dust Rule 310		Project Type/Inspection Report Number	609030	609022	609023	609015	609069	609068	605731	605735	605737	605746	605745	605744	607444	607476	607449	607447
Standards																		
301	Opacity Limitation			C											C			
302	Stabilization Requirements		C	C		C	C			C		C	C	C		C	C	C
306	Control Measures							C			C	C	C	C			C	C
308	Work Practices																	
308.1	Bulk Material Hauling—Off Site																	
308.2	Bulk Material Hauling—On Site																	
308.3.a	Ineffective Trackout Control Device											C						
308.3.b	Trackout Beyond 50 Ft				C										C			
308.4	Unpaved Haul/Access Roads																	
308.6	Stockpiles Dry And Silty							C	C	C						C		
308.7	Soil Moisture																	

Note: V = violation, C = notice to correct

Table 5. Construction Rule Effectiveness Study Results Summary

Rule Number	Description	Total NOV+NTC	NOVs	NTC	Percentage of Sites With		
					NOV+NTC	NOV	NTC
301	Opacity	5	2	3	0.08	0.03	0.05
302	Stabilization	17	5	12	0.27	0.08	0.19
306	Control Measures	12	7		0.19	0.11	0.00
308	Work Practices						
308.1	Bulk Material Hauling--Off Site	0	0	0	0.00	0.00	0.00
308.2	Bulk Material Hauling--On Site	0	0	0	0.00	0.00	0.00
308.3.a	Ineffective Trackout Control Device	10	6	4	0.16	0.10	0.06
308.3.b	Trackout Beyond 50 Ft.	7	1	6	0.11	0.02	0.10
308.4	Unpaved Haul/Access Roads	1	1	0	0.02	0.02	0.00
308.6	Stockpiles Dry And Silty	11	5	6	0.17	0.08	0.10
308.7	Soil Moisture	3	3	0	0.05	0.05	0.00
Overall non-compliance rate					0.13		

The 2002 windblown dust PM-10 emission estimate for the nonattainment area was 10,505 tons per year. However, the 2002 PM-10 emission estimate used a threshold wind speed of 15 miles per hour and the 2005 analysis assumed a threshold wind speed of 20 miles per hour. The 2005 emission inventory report should explain why a higher threshold wind speed was used in 2005 than previously. Is this based on research within the Phoenix area on the wind speed versus emissions relationship?

Paved Road Emissions

Paved road emissions were estimated using EPA's AP-42 equations. Area-specific inputs to this equation are the paved road silt loadings and average weight of the vehicle fleet traveling on the roads. The values used for silt loadings varied by freeways, high-traffic roads, and local and low-traffic roads. The values for these silt loading values are documented in the MCAQD 1999 Serious Area Particulate Plan and appear to be reasonable values, and are also relatively close to the AP-42 defaults. The average vehicle weight assumption of 3 tons per vehicle is a default value that essentially eliminates vehicle weight from factoring into the emission factor calculation. This is generally acceptable practice. However, a more locally-specific value could be derived based on the VMT mix used in calculating the onroad exhaust emissions, by assigning an average vehicle weight to each vehicle type and weighting these values according to the VMT mix. The one significant area of concern in the paved road emissions calculations, though, is the improper calculation of PM-2.5 emissions from the PM-10 emissions. In the MCAQD 2005 inventory, the PM-2.5 paved road emissions are calculated by multiplying the PM-10 emissions by 0.15. Instead, the PM-2.5 emissions should be calculated by using the same AP-42 equation used to calculate the PM-10 emissions, but using the PM-2.5-based particle size multiplier and the PM-2.5-based correction factor that accounts for exhaust, brake wear, and tire wear. Using the appropriate equation and factors results in PM-2.5 emissions for the PM-10 modeling area of approximately 1,000 kg/day, yields a reduction of about 5,000 kg/day from the 6,360 kg/day value reported in Table 5.4-6.

The AP-42 equation for paved roads also includes an adjustment to account for the effects of precipitation on paved road emissions. MCAQD does not include this adjustment. Based on 18 days in 2002 with greater than 0.01 inches of precipitation, the PM emissions from paved roads would be reduced by approximately 1.4 percent. This would change the Table 5.5-1 PM-10 annual emissions from paved road fugitive dust for the PM-10 nonattainment area from 13,783 tons per year to 13,590 tons per year. Unless the Phoenix area experienced significantly more precipitation than this in 2005, it is not expected that applying the precipitation correction would significantly change the calculated paved road emissions.

Unpaved Road Emissions

Unpaved road emissions were also calculated using the AP-42 emission factor equation. This equation for unpaved road emissions includes terms for surface material silt content, average vehicle speed, and surface material moisture content. The values used by MCAQD are all reasonable, however, no explanation for the use of these values is provided. The average speed value modeled of 25 miles per hour should be based on actual data, as this can have a significant impact on the emissions. For example, changing the speed to 40 mph would cause the unpaved road PM-10 emissions to increase by about 26 percent. This would change the Table 5.5-1 PM-10 annual emissions from unpaved road fugitive dust for the PM-10 nonattainment area from 8,490 tons per year to 10,697 tons per year. In contrast, modeling these emissions at a speed of 15 mph would result in a decrease in PM-10 annual emissions to 6,537 tons per year. Another general concern is that the emission totals for the PM-10 modeling area reported in Table 5.4-10 cannot be duplicated using the AP-42 equation and the stated inputs. Applying the information provided by MCAQD to the AP-42 unpaved road equation results in PM-10 emissions that are about 11 percent greater than those reported in Table 5.4-10, or 23,226 kg/day.

Activity for unpaved roads is calculated by multiplying an average daily traffic (ADT) volume by unpaved road mileage. MCAQD uses an ADT of 4 vehicles per day on low traffic roads and 120 vehicles per day on high traffic roads. This is an assumption that appears to be carried forward from the 1994 PM inventory for Maricopa County. This value is an assumption that does not appear to have been based on any actual data. The unpaved road emissions are directly proportional to the ADT values. Thus, if the low traffic ADT is actually 40 rather than 4, then the emissions from the low traffic roads would be increased by a factor of 10. This would result in a change to the Table 5.4-10 total unpaved road PM-10 fugitive dust emissions in the modeling area from 20,954 kg/day to 48,053 kg/day. Thus, it is important that this ADT value have some basis in actuality.

The unpaved road mileage used in these calculations is also of concern. The 2005 unpaved road mileage for low traffic roads of 1,129.2 miles is essentially the same as the values used for 2001 through 2006 in the 1999 Serious Area PM-10 Plan. The mileage modeled for the 2005 inventory on high traffic unpaved roads of 224.3 represents a decrease of 54 miles from the 2006 projections in the 1999 Plan. The 2005 inventory indicates that this represents the reduction in unpaved road mileage due to the control measures in the 1999 Plan to Reduce Particulate Emissions from Unpaved Roads and Alleys. However, the documentation does not state how many miles of roads have assumed to have been paved. One of the appendices to the Revised

MCAQD 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area lists commitments by several jurisdictions in the MCAQD area to pave, gravel, or stabilize emissions from unpaved roads. This list does not provide sufficient information to calculate the mileage reduced from unpaved roads. Additionally, there is no indication that growth in unpaved roads since the time of the 1999 plan has been factored into this analysis. With the growth in population and VMT in the MCAQD area, it is unrealistic to expect that the mileage of unpaved roads in the area has not increased since 1999.

As with the paved roads, the AP-42 documentation includes a precipitation adjustment. No adjustment for precipitation was applied to the unpaved roads, but, again, this is not expected to have a significant impact.

Unpaved Road ADT Estimation Methods Used in Other Areas

Due to the sensitivity of the unpaved road fugitive dust emissions to the average daily traffic volume used, information on how this value was derived in other comparable areas in the Southwest was investigated. The Clark County, Nevada, PM-10 SIP was prepared in June 2001 and estimates the ADT for unpaved roads based on traffic count data. The Clark County SIP indicates that traffic counts were taken on a representative sample of the unpaved roads in the area and these samples were then used to predict daily traffic volumes on the remaining unpaved roads. The roads were divided into four volume categories. For the first three categories, the average of the daily traffic volume range was modeled as the ADT for the roads in each category, resulting in ADTs of 25, 75, and 125 for these three categories. The fourth category included unpaved roads with ADTs estimated to be greater than 150. Because the upper end of this range was unknown, the ADT for this category was set to 151. This method of estimating ADT based on actual traffic counts is more robust than the Maricopa County method which relies on model assumptions of 4, 120, and 120 vehicles per day on low, medium, and high ADT roads, respectively. Although the MCAQD documentation does not indicate the ADT volume range for the low, medium, and high ADT unpaved road categories, a conservative assumption could be made that these roads fall in a less than 50 ADT volume category. Making the argument that the lowest ADT category of unpaved roads in Maricopa County should be comparable to those in Clark County, based on proximity and comparable geographic conditions, then it would be reasonable to assume that the ADT for the low ADT category should be increased to 25 vehicles per day. Such an assumption would increase the unpaved road fugitive dust PM-10 emissions reported in Table 5.4-10 from 20,954 kg/day to 36,762 kg/day in the PM-10 modeling area.



December 10, 2007

VIA E-MAIL AND U.S. MAIL

jkuspert@mail.maricopa.gov

Ms. Johanna M. Kuspert
Environmental Planner
MARICOPA COUNTY AIR QUALITY DEPARTMENT
1001 N. Central Avenue, Suite 595
Phoenix, Arizona 85004

Re: *Arizona Chamber of Commerce and Industry Comments on Proposed Rules 310 and 310.01*
(Five Percent Plan Rulemaking) (13 A.A.R. 3768 (11/9/07))

Dear Johanna:

The Arizona Chamber of Commerce and Industry, Air Quality Subcommittee, offers the attached comments on the Maricopa County Proposed Rules 310 and 310.01 (11/9/07 version).

We look forward to the Department's response.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Stanton Curry".

J. Stanton Curry

A handwritten signature in cursive script, appearing to read "Richard W. Tobin, II".

Richard W. Tobin, II

Richard W. Tobin, II
Co-Chairs, Air Quality Subcommittee

Enclosure
1703603

cc: (w/encl.) (via e-mail)
R. Kard, *Director*
C. McKaughan, *EPA*
L. Bauer, *MAG*

**ARIZONA CHAMBER OF COMMERCE AND INDUSTRY
COMMENTS ON
MARICOPA COUNTY 11-09-07 PROPOSED AIR QUALITY RULE
FIVE PERCENT PLAN RULEMAKING
December 10, 2007**

The Arizona Chamber of Commerce and Industry, Air Quality Subcommittee, (the Chamber) appreciates the opportunity to comment on the proposed Maricopa County Five Percent Plan Rulemaking for revisions to the State Implementation Plan (SIP). (13 A.A.R. 3768 (11/9/07)) Chamber members have attended and participated in the various stakeholder meetings that have been conducted over the summer by the Maricopa County Air Quality Department (MCAQD).

These limited comments do not necessarily represent all of the issues that are of concern to Chamber members. Chambers members individually will continue to submit comments and participate in public meetings and hearings as they see fit. These comments raise some issues that are of general concern to Chamber members.

The issues set forth in these comments have not been addressed by the ongoing stakeholder process. The comments explain the Chamber's view that MCAQD is not proposing to regulate itself the same way it proposes to regulate other owners and operators of fugitive dust sources. This is fundamentally unfair and in some respects is legally impermissible.

As explained in more detail below, these comments object to four aspects of proposed rules:

- Proposed Rule 310.01 would constitute an impermissible relaxation of the existing SIP rule that already requires the control of fugitive dust from County-owned unpaved roads.
- Proposed Rule 310 would regulate business-owned unpaved roads more stringently than draft Rule 310.01 would regulate County-owned unpaved roads without justification.
- The prohibition of any visible emissions beyond the property line is unconstitutional.
- The term "area accessible to the public" in Rule 310 and proposed Rule 310.01 needlessly will cause confusion and controversy because of its similarity to important regulatory terminology used in the stationary source permitting program.

1. *Proposed Rule 310.01, § 302.7 is an Unauthorized SIP Relaxation for County-Owned Unpaved Roads*

MCAQD's proposed Rule 310.01 would relax the regulation of fugitive dust emissions from County-owned unpaved roads, compared to the current air quality requirements for County-owned unpaved roads (Rule 310.01, § 304) that have been in effect for several years and already are part of the State Implementation Plan (SIP). This unusual proposal to reduce the existing level of fugitive dust regulation for County-owned property stands in contrast to MCAQD's efforts to increase the regulation of almost every other type of activity that emits fugitive dust within Maricopa County. The proposed rule provisions that relax the SIP provisions that apply to County-owned unpaved roads are summarized in the following table.

UNAUTHORIZED SIP RELAXATION—COMPARISON OF REQUIREMENTS FOR UNPAVED COUNTY ROADS IN CURRENT SIP RULE 310.01 AND PROPOSED VERSION OF NEW RULE 310.01 [Based on Proposed Rule dated 11-09-07]			
REQUIREMENTS	CURRENT SIP RULE	PROPOSED RULE	COMMENTS
Control measure standard	Must comply with at least one to meet “effective control” criteria: pave, apply dust suppressant, or apply and maintain a gravel surface (§§ 304, 304.1) Note: No grace period is allowed. Compliance must be achieved when the traffic on an unpaved road reaches or exceeds 130 vehicle trips per day.	Compliance may be phased in over many years in increments of 5 miles/year (rather than implemented now). (§ 302.7(c)(3)(b))	This is a significant SIP relaxation. The current SIP rule has been in effect for several years and the County is supposed to already be in compliance with the control measures. In contrast, the proposed rule provides a delayed compliance schedule that allows compliance with § 302.7 to be slowly phased-in incrementally over many years into the future.

The change in the proposed rule would be an impermissible relaxation of the SIP. Moreover, the concept of decreasing regulation of County-owned sources of fugitive dust while increasing the regulation of so many other categories of emitters is inequitable and illogical.

2. MCAQD has not Justified Differences in Dust Control Requirements for County-Owned Unpaved Roads Compared to Dust Control Requirements for Business-Owned Unpaved Roads

In the proposed rules, County-owned unpaved roads have fewer and less strict dust control requirements than do business-owned unpaved roads. This disparity is illustrated in the following table.

COMPARISON OF UNPAVED ROAD REQUIREMENTS [Based On Proposed Rules Dated 11-09-07]		
REQUIREMENTS	BUSINESS-OWNED UNPAVED ROADS (PROPOSED RULE 310)	COUNTY-OWNED UNPAVED ROADS (PROPOSED RULE 310.01)
Dust permit and plan for disturbed surface ≥ 0.10 acre	Yes (§ 302)	No
20% opacity standard for on-site fugitive dust emissions	Yes (§§ 303.1.a, 304.2.a)	Yes (§ 302.7.a)
No visible fugitive dust emissions beyond property line standard	Yes (§ 303.1.b)	No
Stabilization standard (must comply with one: silt loading test, silt content test, or limit trips to 20/day and speed to 15 mph)	Yes (§ 304.2)	Yes, must comply with silt loading test or silt content test. (§ 302.7.a)

COMPARISON OF UNPAVED ROAD REQUIREMENTS [Based On Proposed Rules Dated 11-09-07]		
REQUIREMENTS	BUSINESS-OWNED UNPAVED ROADS (PROPOSED RULE 310)	COUNTY-OWNED UNPAVED ROADS (PROPOSED RULE 310.01)
Control measure standard (must comply with at least one: water until visibly moist, pave, apply and maintain gravel, recycled asphalt or other suitable surface material; use dust suppressant other than water; or limit trips to 20/day and speed to 15 mph)	Yes, but no grace period for achieving compliance (§ 305.7)	Yes, but may be phased-in in increments of 5 miles/year. (§ 302.7)
Post sign with complaint line information for sites ≥ 5 acres	Yes (§ 308)	No
Dust control training class every 3 years for certain personnel at site with disturbed area ≥ 1 acre	Yes (§ 309)	No
Dust Control Coordinator on-site for permitted sites with disturbed area ≥ 5 acres	Yes (§ 310)	No
Opacity monitoring—use Appendix C test method for unpaved roads	Yes (§ 501.1.c)	Yes (§ 501.1.b)
Stabilization monitoring—use Appendix C test methods for unpaved roads	Yes (§ 501.2.b)	Yes, but only for roads used for ≥ 130 vehicle trips per day. (§§ 302.7.c.3, 501.2)
Make and keep compliance records	Yes; keep for ≥ 2 years. (§§ 502, 503)	Yes; keep for ≥ 2 years. (§§ 502, 503)

In response to a question at the July 19, 2007 public meeting on the draft rules, MCAQD offered three reasons why it claims the disparity is justified. MCAQD's three reasons are summarized below (with the Chamber's comments in parentheses):

- MCAQD claims that total costs for additional dust controls for County-owned roads would be much higher than the new dust control costs for any business category. (MCAQD has not demonstrated that this claim is factually correct. For example, what portion of these costs already is required under current Rule 310.01, § 304? Even if MCAQD's claim is correct, are higher costs justified because the County's unpaved roads are a larger source of dust than most business categories and/or because the County's unpaved roads have been less regulated in the past than most business source categories?).
- MCAQD claims that the County does not have the same degree of control over County-owned roads that a business has over business-owned roads. (MCAQD has not demonstrated that this claim is legally correct. In fact, current Rule 310.01, § 304 already requires the County to stabilize County-owned unpaved roads in certain cases. There is no apparent legal reason why the County does not have the ability to stabilize an unpaved road that the County owns.)
- MCAQD claims that adjacent landowners might have the ability to stop a road paving project. (MCAQD had not demonstrated that this claim is legally correct. There is no apparent legal reason why the County does not have the ability to stabilize an unpaved road that the County owns. If this were a real legal problem, wouldn't it also be an equally serious problem for a business that must stabilize its unpaved road adjacent to other landowners?)

If MCAQD intends to impose increased obligations on the business sector, including requirements for business-owned unpaved roads that are more stringent than the requirements for County-owned unpaved roads, then MCAQD should clearly justify that disparity and explain and support with facts its assertions summarized above and any others on this subject. Given the significant amount of the PM-10 problem attributed to fugitive dust from unpaved roads and shoulders—regardless of who owns them—MCAQD should provide the public with a detailed explanation for its position that its unpaved roads should be subject to less stringent controls than business-owned unpaved roads. In the absence of a convincing demonstration, common sense and fairness should compel the County to adopt comparable regulations for County-owned sources and business-owned sources of dust emissions. The Chamber requests MCAQD to provide the public with a detailed explanation of its position, including supporting legal and cost analysis, if MCAQD continues to advocate less stringent controls for unpaved roads owned by the County than for unpaved roads owned by businesses.

3. *The Proposed Property Line Standard in Proposed Rule 310, § 303.1.b and in Proposed Rule 310.01 §§ 302.4.a, 302.5.a, 302.6.a.1 is Unconstitutional as Proposed*

The referenced provision reads: “The owner and/or operator of a dust generating operation shall not cause or allow visible fugitive dust emissions to remain visible in the atmosphere beyond the property line.” At least two other jurisdictions have concluded that absolute prohibitions against visible emissions crossing a property line are unconstitutional. In *Ross Neely Exp. v. ADE*, the Alabama Supreme Court held that a state rule prohibiting visible emissions from crossing a property line:

is clearly overbroad, encompassing every situation in which visible fugitive dust emissions move across a lot line, without regard to damage, injury, or inconvenience caused, reasonable attempts at control, etc. This invades the area of protected freedom, severely restricting the use of property, and creates a situation where discriminatory enforcement is almost inevitable.

437 So.2d 82, 85 (Ala. 1983); *see also*, *CF & U v. CAPCC*, 640 P.2d 238 (Colo. App. 1981) (holding that property boundary standard “contravenes fundamental due process rights”). The Chamber respectfully requests this subsection be removed from the draft rule.

4. *The Definition of “Area Accessible to the Public” is Problematic*

Current Rule 310 and proposed Rule 310.01 include the term, “area accessible to the public” (defined as, “Any parking lot or public roadway that is accessible to public travel primarily for purposes unrelated to the dust generating operation”). Rule 310, § 201; Proposed Rule 310.01, § 203. This term creates confusion because the new term sounds like it is related to the definition elsewhere in the County rules for “ambient air” (*i.e.*, “That portion of the atmosphere, external to buildings, to which the general public has access.”) *See* Rule 100, § 200.13. The “ambient air” definition serves important but unrelated purposes under unrelated parts of the air program, including stationary source permitting.

In response to a question at the July 19, 2007 public meeting, MCAQD explained that the term “area accessible to the public” is used for a unique purpose concerning trackout controls. Moreover, the definitions section in Rule 310 begins with this restrictive phrase, “For the purpose of this rule, the following definitions shall apply.” Thus, it appears that MCAQD correctly does not intend that this term and its definition have any effect on the unrelated definition or interpretation of “ambient air” in Rule 100, § 200.13.

In order to avoid future confusion or controversy, the Chamber requests that MCAQD formally state that the term “area accessible to the public” and its definition in Rules 310 and 310.01 do not have an effect on the definition or interpretation of “ambient air” in Rule 100, § 200.13. However, it would be preferable to use a term other than “area accessible to the public” in Rules 310 and 310.10. For example, either “paved public parking/travel area” or “public parking/travel area” would be a good, non-controversial substitute for “area accessible to the public.” This change also would avoid the circularity and the lack of clarity caused by using “accessible” in both the term being defined and in its definition.

The Chamber thanks MCAQD for this opportunity to comment on the proposed rules and urges the County to make the requested revisions.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

December 12, 2007

Lindy Bauer
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, Arizona 85003


Dear Ms. Bauer:

The U.S. Environmental Protection Agency (EPA) Region IX is submitting the following preliminary comments on the draft "MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area." First of all, we would like to commend the Maricopa Association of Governments (MAG), the Arizona Department of Environmental Quality (ADEQ), and the Maricopa County Air Quality Department (MCAQD) on the extensive effort, resources and staff time that went into developing this plan. We would also like to commend the agencies for the resources that are being committed to implement the plan into the future. These resource commitments are essential for success in attaining the PM-10 standard in the Maricopa County nonattainment area.

As you know, because MAG has chosen 2010 as the attainment deadline in the plan, the first clean year will need to be in 2008. It is important that the public understand that if a violation occurs before EPA acts on the plan, EPA will not be able to approve the plan. If EPA does disapprove the plan, such a disapproval would start sanctions and Federal Implementation Plan (FIP) clocks. If EPA approves the plan and a violation occurs thereafter, MAG will need to revise the plan because the plan would have failed to ensure attainment of the standard.

While the plan appears to address the Clean Air Act requirements, based on our preliminary review, EPA is concerned about some of the assumptions made in the plan. EPA will need to go through a much more extensive review upon formal submittal of the plan by ADEQ.

We are concerned that the new and more stringent measures will not be in place early enough in the three-year period to prevent a violation from occurring. The draft plan assumes that the Maricopa County nonattainment area will have three clean years of data beginning in 2008. However, the new and more stringent measures that are included in the draft plan begin in 2008 and are only fully implemented by 2010. This means that the Maricopa County nonattainment area will phase in the new and more stringent controls

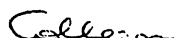
over a three-year period, and will enter 2008 with a control program similar to what exists today.

Another issue that we wanted to raise to your attention is the reliance on increased compliance to achieve the goals of the plan. In Figure ES-5, most of the emission reductions for the committed measures rely on increased compliance with dust control requirements. The MCAQD is the primary entity responsible for achieving the higher level of compliance. Given the current difficulty of ensuring compliance with existing dust control requirements, achieving such a significant change in behavior by regulated industries seems optimistic.

Lastly, the cities have made commitments to adopt plans and ordinances that are intended to result in emission reductions. These emission reductions are relied on in this plan. In order to do a thorough review of the plan, we will need a summary table of the city commitments that identifies exactly what the cities are committing to do, how and when they will accomplish the measure, and who will be enforcing the measure. We plan to participate in the workshop that you are hosting this month, and we can discuss with you the kind of summary information that would be useful.

Please call me at 520-498-0118 if you have any questions about our comments. Again, we appreciate all the work that MAG, ADEQ, and MCAQD have put into this plan. The PM-10 problem in the Phoenix metropolitan area is very complex, and it is apparent that the air quality agencies have been thoroughly investigating solutions to that problem. We look forward to getting the formal submittal at the end of the month, and to working with you, ADEQ, and MCAQD during our formal review of the plan.

Sincerely,



Colleen McKaughan
Associate Director
USEPA, Region IX

cc: Nancy Wrona, ADEQ
Robert Kard, MCAQD
Don Gabrielson, PCAQCD

APPENDIX D

EXHIBIT 2:

CERTIFICATION OF ADOPTION

RESOLUTION TO ADOPT THE MAG 2007 FIVE PERCENT PLAN FOR PM-10
FOR THE MARICOPA COUNTY NONATTAINMENT AREA

WHEREAS, the Maricopa Association of Governments (MAG) is a Council of Governments composed of twenty-five cities and towns within Maricopa County and the contiguous urbanized area, the County of Maricopa, the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community, Fort McDowell Yavapai Nation, Arizona Department of Transportation, and Citizens Transportation Oversight Committee; and

WHEREAS, the Governor of Arizona designated MAG as the regional air quality planning agency and metropolitan planning organization for transportation in Maricopa County; and

WHEREAS, the Maricopa County nonattainment area is classified as a Serious Area for PM-10 particulate matter according to the Clean Air Act; and

WHEREAS, the Five Percent Plan for PM-10 is required by the Clean Air Act since the Maricopa County nonattainment area failed to attain the PM-10 standard by December 31, 2006; and

WHEREAS, the plan is required to reduce PM-10 emissions by at least five percent per year until the standard is met; and

WHEREAS, MAG has prepared the Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area; and

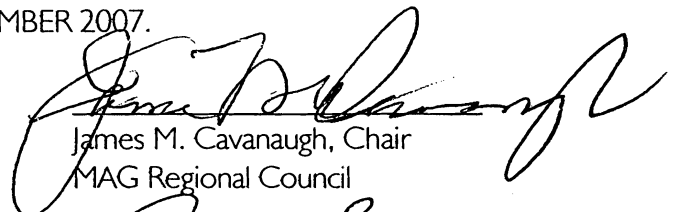
WHEREAS, A.R.S. 49-406 H. requires that the governing body of the metropolitan planning organization adopt the nonattainment area plan.

NOW THEREFORE, BE IT RESOLVED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS REGIONAL COUNCIL as follows:

SECTION 1. That the MAG Regional Council adopts the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area which contains committed control measures from the State and local governments.

SECTION 2. That the MAG Regional Council further recommends implementation of the appropriate measures by the MAG cities and towns, Maricopa County, and the State of Arizona and authorizes the submission of the plan to the Arizona Department of Environmental Quality and the U.S. Environmental Protection Agency.

PASSED AND ADOPTED BY THE REGIONAL COUNCIL OF THE MARICOPA ASSOCIATION OF GOVERNMENTS THIS NINETEENTH DAY OF DECEMBER 2007.


James M. Cavanaugh, Chair
MAG Regional Council

ATTEST:


Dennis Smith
Executive Director

**CERTIFICATION OF ADOPTION OF THE
MAG 2007 FIVE PERCENT PLAN FOR PM-10
FOR THE MARICOPA COUNTY NONATTAINMENT AREA**

An Excerpt from the December 19, 2007 MAG Regional Council Meeting Minutes

Councilmember Peggy Neely moved to adopt the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. Mayor Bob Barrett seconded, and the motion carried unanimously.

I certify that on December 19, 2007, the MAG Regional Council adopted the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area.



Dennis Smith
MAG Executive Director

12/00/07

Date